2009 JETRO WHITE PAPER

ON

"INTERNATIONAL TRADE AND FOREIGN DIRECT INVESTMENT"

Global Strategy for Japanese Companies: Environment as a New Growth Engine

Japan External Trade Organization（JETRO）

Overseas Research Department

2009 JETRO WHITE PAPER ON "INTERNATIONAL TRADE AND FOREIGN DIRECT INVESTMENT"

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Explanatory Notes

1. Abbreviations of publications and publishing organizations

(1) IFS: International Financial Statistics (IMF)
(2) DOTS: Direction of Trade Statistics (IMF)
(3) WEO (D): World Economic Outlook (Database) (IMF)
(4)BOP: Balance of Payments Statistics (IMF)

2. Figures (As follows, unless otherwise indicated.)

(1) In text, figures and tables, "year" indicates the period January-December, and "fiscal year" indicates the period April-March.
(2) In tables, figures for "foreign currency reserves" and "outstanding outward debt" are year-end figures. "Foreign currency reserves" exclude gold.
(3) Figures for "rate of growth" are year-on-year figures. In figures and tables, "-" indicates lack of results, "0" indicates figures of less than a unit, and "n.a." indicates that figures are unclear or unavailable.
(5) Because figures are rounded, there may be discrepancies in total.

3. Country and region classifications (As follows, unless otherwise indicated.)

(1) ASEAN (Association of Southeast Asian Nations): Indonesia, Singapore, Thailand, Philippines, Malaysia, Brunei, Vietnam, Laos, Myanmar, Cambodia
(2) ASEAN 4: Indonesia, Thailand, the Philippines, Malaysia
(3) Hong Kong and Taiwan are treated as independent economies
(4) EU27: EU15 (Austria, Belgium, Denmark, Germany, Greece, Finland, France, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden, Netherlands, UK), plus 12 new members (10 countries which acceded in 2004 (Cyprus, Czechoslovakia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia) and 2 countries which acceded in 2007 (Romania, Bulgaria))
(5)EU member candidates: Croatia, Macedonia, Turkey
(6)EFTA (European Free Trade Association): Liechtenstein, Norway, Switzerland, Iceland
(7) NAFTA (North American Free Trade Agreement): US, Canada, Mexico
(8) BRICs: Brazil, Russia, India, China

4. Base point in time

As a rule, the base point in time is at the end of June 2009 for the General Overview.

5. Trade statistics

World trade figures are based on the World Trade Atlas.

Preface

Triggered by the financial crisis that began in the United States, the world economy slowed down rapidly beginning in the second half of 2008. After experiencing rapid growth at a rate of roughly 5% from 2004 through 2007, the world economy entered a recessionary phase said to be the worst since the Great Depression, with the world economic growth rate falling to 3.2% in 2008 and expected to fall into negative in 2009. While the first half of 2009 saw some signs of the world economy likely to hit bottom sooner or later, such as improvements in some economic indicators, many observers still have a cautious outlook for the world economy.

Real trade on a global basis grew by 3.8% yoy in 2008, a growth rate approximately one-half that of the previous year. Pressure toward a slowdown in growth will be intensified in 2009. In 2008, cross-border M&As totaled US$1.2 trillion, falling for the first time in five years. In the first half of 2009, this figure dropped massively, and it is likely that a major decrease on an annual basis will be unavoidable. At the same time, while a drop in Japan's outward M&As by value will be unavoidable in 2009 following the record high recorded in 2008, development of foreign markets through outward M&As continues to become a very important strategic option for Japanese firms.

With the world economy in a recessionary phase, some countries adopted a succession of measures restricting trade. Such measures include increasing tariffs, introducing compulsory standards, giving priority to use of domestic products in government purchasing, and so on. While at present each member country is under World Trade Organization (WTO) rules with advanced dispute-resolution mechanisms, the importance of reaching agreement on the Doha Round of global trade negotiations is increasing for the purposes of further checking trade restrictions and advancing trade liberalization. Also, at present progress is being made in liberalization and systematization of trade above and beyond that achieved under the WTO, in areas such as investment and services, government purchasing, and intellectual property rights, through frameworks such as those of free trade agreements (FTAs) and multilateral agreements. In addition, as awareness of environmental issues grows internationally, the importance of discussions concerning trade and the environment is increasing.

Through the financial crisis, demand is growing for energy-saving technical products such as hybrid vehicles and for low-priced apparel. In energy-related fields, interest is increasing in clean energy sources (such as wind and solar power) as substitutes for depleting resources such as petroleum. Environmental businesses will play key roles in leading the world economy after the financial crisis, and the necessity of analysis of the size of this market and growth fields within it is increasing. In addition, consumer markets in emerging countries shows growing need for low- and mid-priced products targeted at the middle class. The situation is the same with service markets, and some experts insist that it is strategically important to provide Japanese-style (high-quality) services at low prices (local prices) in Asia.

In this White Paper, Chapter I deals with the "World Economy, Trade, and Direct Investment," Chapter II, with "Post-Financial Crisis Trade Restrictive Measures and the Need for Discipline in International Trade," and Chapter III, with the "New Business Opportunities in the Environmental Market and Service Market."

Trade and direct investment statistics of the world and Japan are updated on the JETRO website (www.jetro.go.jp) as needed. Visiting the JETRO website for such data is highly recommended (for details, see the last page).

Japan External Trade Organization (JETRO)

I. The World Economy, Trade and Direct Investment

1. Current State of the World Economy and Issues to Be Solved

(1) Toward Bottoming Out of Economy

■ **Financial crisis that started in the U.S. leads to a global recession**

The world economy in 2008 suffered a massive slowdown as an effect of the global financial crisis that was realized beginning in September. According to IMF estimates as of April 2009, the world's real GDP growth rate (Purchasing Power Parity [PPP] basis) stood at 3.2%, its lowest level since 2005, and in 2009 was projected to see its first negative figure since the end of World War II. (Table I - 1)

== Table I-1 ==

The subprime mortgage (housing loans for individuals with low credit scores in the United States) problem in the U.S., which had shaken the world's financial markets substantially with the August 2007 freezing of assets of an investment fund in the major French banking group BNP Paribas, developed into a global financial crisis with the September 2008 collapse of major U.S. securities firm Lehman Brothers.

The effects of these developments damaged not just financial markets but also the real economy of each country and region around the world. First, in the U.S. amplification of credit crunch and worsening of the fund-raising environment markedly decreased financial institutions' risk-taking capabilities. As a result, it became difficult for businesses and households to borrow or raise funds, leading to sluggish capital investment and expenditures on household consumption. At the same time, massive losses recorded in residential and financial industries increased pressure toward labor adjustments. Worsening of labor and income conditions, combined with the negative wealth effect due to falling prices of equities and residential properties, dampened household consumption. Over the three straight quarters from the third quarter of 2008 through the first quarter of 2009, the U.S. recorded a negative real GDP growth rate. On November 28, 2008, the National Bureau of Economic Research (NBER) stated that the period of economic growth that began in 2001 had ended in December 2007, when a period of contraction began.

Due to factors including the fact that in comparison with the U.S. the developed nations of Europe were expected to have lower degrees of exposure among financial institutions to subprime-loan instruments and had lower rates of equity holdings among households, some expected the impact on the real economy in these nations to be weaker than in the United States. However, nations including Iceland, Ireland, the United Kingdom, and Spain were faced with adjustments following the collapse of residential and real-estate bubbles similar to or exceeding those in the U.S., as well as marked balance-sheet losses at financial institutions. As a result, the economy in each nation slipped into recession. The 15 nations of the euro zone recorded negative GDP growth for the four consecutive quarters, from the second quarter of 2008 through the first quarter of 2009.

Meanwhile, in Japan, since its financial institutions held fewer holdings of subprime-loan instruments than those in Europe and the U.S., its corporate sector had relatively sound financial structures, its financial institutions' nonperforming loan ratios had been on the decline, and its households held relatively smaller shares of risk assets, the direct impact on the real economy was minor through mid-2008. However, toward 2009, as cyclical adjustment pressure increased, a rapid increase in the value of the yen led to a rapid drop in exports and a full-fledged worsening of business performance, and downward pressure on the real economy intensified, Japan recorded three consecutive quarters of negative real GDP

growth rates, from the third quarter of 2008 through the first quarter of 2009.

(2) Post-Financial-Crisis Changes in International Balance-of-Payments Structure and Impact on Real Economy

■ **Contractions in international monetary flows**

In regions other than Europe and the U.S. and in developing nations, where links to the global economy and financial markets are not very strong, economic damage appeared to be limited with some exceptions. According to the IMF's Global Financial Stability Report, released in April 2009, while cumulative financial-institution losses resulting from the subprime-mortgage problem (estimated for the period 2007 - 2010) will reach US$2.712 trillion (19.0% of GDP) in the U.S. and US$1.193 trillion (7.3% of GDP) in Europe, losses will be relatively lower in regions such as Japan, Asia, Central and South America, and the direct impact on regions other than Europe and the U.S. is relatively limited. (Figure I - 1)

== Figure I-1 ==

However, chaos in financial markets has intensified downward pressure on the real economy through two channels: (1) contraction of credit in international financial markets, and (2) a decrease in real demand due to the slowdown of the U.S. economy.

From 2007 through 2008, the cross-border bank lending balance fell by approximately US$5 trillion worldwide from a peak of approximately US$36 trillion (March 31, 2008) to approximately US$31 trillion at the end of 2008. (Fig. I - 2)

== Figure I-2 ==

A look at this trend broken down by country and region shows an aggressive movement toward growth in lending from the U.S. and the developed nations of Europe to developing nations and regions and to offshore financial centers in 2007, while this trend reversed itself in 2008 as the pull of funds from overseas accelerated in both the U.S. and the developed nations of Europe. While the U.S. began collecting on loans from overseas in the first half of 2008, the developed nations of Europe increased lending by approximately US$1.5 trillion in the first half of the year and then decreased it by US$3.9 trillion in the second half (Figure I - 3). Similarly, trends in securities investment between countries and regions show a clear contracting trend, indicating that the fund-raising environment is worsening in international financial markets (Figure I - 4).

== Figure I-3 ==

== Figure I-4 ==

The effects of credit contraction in international financial markets were felt at relatively early stages in Central and Eastern Europe and in Russia and members of the Commonwealth of Independent States (CIS). Against a background of expectations that they would join the euro zone and rising resource prices, these countries had realized high levels of economic growth thanks to substantial increases in inward foreign direct investment. At the same time some bubble-like conditions developed in their domestic economies, large-scale current-account deficits also developed. Highly dependent on short-term funds from overseas, they faced the risk that once short-term funds started to flow outward from their economies,

they would run short of foreign reserves in a short period of time. Not a few of these nations employed systems of fixed exchange rates, leading to conditions similar to those of the Asian currency crisis of the late 1990s. While resource-exporting nations were faced with rapid adjustments to commodities markets beginning in mid-2008, outflows of real national income overseas due to worsening of trade conditions spurred a worsening of economic conditions. As a result, some of these nations ran short of foreign currency due to a rapid worsening of the international balance of payments, with decisions having been made by June 2009 for IMF support for the following nations among those in Central and Eastern Europe and Russia and the CIS: the Ukraine, Hungary, Latvia, Belarus, Serbia, and Romania, among others (Figure I - 5).

== Figure I-1 ==

■ **Realization of the effects of decreased exports in Asia**

The global financial crisis had an effect on the real economy as well through a decrease in trade resulting from the worsening of economic conditions in the U.S. and other developed nations and regions. According to IMF estimates, while the global value of trade had continued to grow at rates mostly in the 10-20% range since 2006, it fell in the fourth quarter of 2008 for the first time in about seven years. The value of trade between developed nations, in particular, showed a drop of 15.6% year on year. While trade between developing nations remained steady, growing at a rate of 10.9%, this rate represented a substantial slowdown from the first half of the year (Figure I - 6).

== Figure I-6 ==

This global shrinkage in trade led to major damage to the economies of Japan and the countries and regions of Asia, which are highly dependent on exports to developed nations, particularly the U.S., and whose export value of products with high income elasticity, such as electrical and transport equipment, is large (Figure I - 7).

== Figure I-7 ==

While the countries and regions of Asia, which had increased their balances of foreign reserves in light of their experiences with the currency crisis of 1997-98, suffered only limited effects of short-term capital outflows (Figure I - 5), the rapid decreases in exports that began in the fourth quarter of 2008 intensified downward pressure on their economies (Fig. I - 8).

== Figure I-8 ==

■ **Damage to low-income nations grows more severe**

The impact on developing nations was even more extensive, with low-income nations in particular suffering severe damage. This is because, in addition to originally weak economic bases, inflows of funds from overseas, which had supported these nations' economies, were squeezed by factors such as decreases in direct investment and remittances from workers overseas and contraction of development assistance due to the worsening of economic

conditions in developed nations. Forecasts from the World Bank project a fall of more than 30% in direct investment in developing nations, from US$583 billion in 2008 to US$385 billion in 2009. Remittances from workers overseas, which had reached US$305 billion in 2008, are projected to fall by 5-8% in 2009.

Together with the rapid adjustments in resource prices beginning in mid-2008, which have dealt another blow to monoculture economies that had been unable to overcome the weakness of their foundations for growth, the moves of foreign workers returning to their home countries, which surfaced in some developed nations and Russia, is resulting ultimately in developing countries forced to share the burden of the economic slump of developed countries.[1]

■ **Commodities markets reach a turning point, and a recovering trend in the dollar**

The trend toward contraction of credit in international financial markets also had a considerable impact on foreign-exchange and commodities markets. Through the first half of 2008, in addition to brisk investment in commodities markets due to easy financial conditions and poor performance of traditional financial instruments (equities and bonds), backed by expectations of growth in emerging nations and regions, there were active moves toward proactive investment in developing nations of Europe, including Central and Eastern Europe, as well as Asia. In foreign-exchange markets as well, the dollar declined in value while investors purchased currencies of emerging nations and regions. As tension in financial markets reached a peak with the shock of the Lehman Brothers collapse in September 2008, investors adopted a stronger stance toward selling risky assets and securing dollar holdings. While the nominal effective rates of the dollar (broadly defined) against the currencies of developed nations and regions and emerging nations remained bearish mostly uniformly as uncertainty about the prospects of the U.S. economy intensified beginning in early 2007, the dollar rebounded from mid-2008 through the end of the year. Since February 2009, the dollar's recovering trend has eased somewhat, and the nominal effective exchange rates have been somewhat soft (Fig. I - 9).

== Figure I-9 ==

The conditions in international commodities markets, which had shown a nearly uniform increasing trend since 2002, entered a period of rapid adjustments after peaking in early July 2008. Investment funds that had avoided dollar-denominated financial assets, due to the decrease in the dollar's value, flowing into markets for commodities such as crude oil, precious metals, and cereals, combined with expectations of growing demand in emerging nations, boosted commodities market through the first half of 2008. In the second half of the year, in addition to a reaction to this rapid increase, the impact on the real economy of the financial crisis that started in the U.S. and resulting anticipation of falling demand caused the markets to enter a rapid adjustment phase. While the Reuters/Jefferies CRB Index, an indicator of trends in international commodities markets as a whole, had risen by mid-2008 by more than 50% from its level at the start of 2007, by mid-December 2008 it had fallen to less than one-half its peak level. From that point through July 2009, the index rebounded somewhat as some aspects of the real economy appeared to have bottomed out and some speculative funds flowed in to the markets for precious metals, cereals, and crude oil.

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[1] According to 2004 estimates by the International Labour Organization (ILO), the number of migrant workers worldwide involved in economic activities (as of the year 2000) was 86.3 million (including 5.4 million refugees).

■ Responses of and coordination between authorities in each country and region and international institutions

1) Reponses of central banks and governments in each country and region

Beginning around mid-2007, when the subprime-mortgage problems materialized, central banks implemented a variety of measures to prevent drying up of liquidity and contraction of credit. Specific measures included a) provision of funds to short-term financial markets through means such as open-market operations, b) extension of emergency credit to, injection of public funds in, and nationalization of troubled financial institutions, and c) raising credit limits of financial institutions. In the area of financial policies, while many central banks in each region maintained a tight policy stance through mid-2008 since they were unable to eradicate concerns abut rising inflation, due partly to rising prices in international commodities markets, as downward pressure was felt on the real economy following the collapse of Lehman Brothers major central banks successively shifted to lowering interest rates, with policy interest rates in the U.S. and the U.K. dropping to historically low levels.

Another characteristic of the responses to this financial crisis is the fact that coordinated action by major central banks (i.e., supplying liquidity to short-term financial markets and coordinated interest-rate cuts) and measures such as conclusion of currency swap agreements and raising credit lines were undertaken at a relatively early stage. Following coordinated action by major central banks in Europe and the U.S. at the end of 2007 to stabilize financial markets (announced December 12 and implemented December 17, 2007), individual currency swap agreements were concluded between the Federal Reserve Board and major central banks on March 11, September 18, and September 29, 2008, credit lines were increased, and on October 8 coordinated interest-rate cuts were conducted by major central banks in Europe and the U.S. (These were the first coordinated interest-rate cuts since September 17 - 18, 2001, immediately following the terror attacks of September 11. The Bank of Japan followed suit by cutting interest rates on October 31.)

Within each region as well, movements have begun toward cooperation between central banks. In Europe, under the framework of the Nordic Council, four Northern European nations (Norway, Sweden, Finland, and Denmark) decided (November 20) jointly to provide US$2.5 billion in additional lending to Iceland, in which the impact of the financial crisis was severe. Also in Asia, at a summit of the leaders of Japan, China, and South Korea, an agreement was reached on expanding the scale of the currency swap arrangements between these three nations concluded under the framework of the Chiang Mai Initiative, and the scale of currency swaps with South Korea was expended. (As a temporary measure through October 2009, the limit on activity from Japan to South Korea has been increased from the equivalent of US$13 billion to the equivalent of US$30 billion.)

In step with the central banks, governments in each country and region also worked out a series of countermeasures against the financial crisis. While the actors implementing these measures vary since financial regulations and supervision systems differ in each country, countermeasures implemented included a) depositor protection, b) government guarantee of interbank and other transactions, to aid cash flow at financial institutions, c) injection of capital into and nationalization of financial institutions, and d) purchase of nonperforming loans and assets that no longer were liquid.

2) Responses of international conferences and international institutions

Immediately following the collapse of Lehman Brothers, the financial ministers and central bank presidents of the G7 nations conferred in a teleconference on September 22, 2008 and then met in Washington, D.C. on October 10, after which they announced that they

would employ various means available to stabilize financial markets. In response, the governments of the U.S. and eurozone nations began a series of countermeasures against the financial crisis, including injection of public capital into financial institutions and guaranteeing bank obligations. At the same time, as it became more apparent that this financial crisis was having a major impact on not just developed nations but emerging countries as well, expectations grew for a response under the framework of the G20, which includes large emerging countries such as Brazil, China, Russia, and India. In preparation for the G20 conference to be held November 15 (the financial summit, the first meeting on financial and global economic conditions), the governments of each country and region formulated and announced policy guidance and action plans.

Under these circumstances, decisions were made to provide financial assistance to Iceland and some emerging countries, which were faced with currency crises or saw foreign reserves hit bottom. Since Iceland originally maintained high interest rates due to price inflation and had earned high credit ratings, the nation saw inflows of nonresident deposits in very large amounts compared to the size of its economy. As a result of an outflow of these funds over a short period of time due to the current financial crisis, its foreign reserves were depleted and it was forced to ask the IMF for assistance. Since October 2008, in addition to the nations of Central and Eastern Europe mentioned above, decisions have been made to provide assistance to developing nations such as Costa Rica, El Salvador, and Mongolia as well, and the number of countries subject to aid under the Stand-by Arrangements has grown from two as of the end of September 2008 (with credit lines of 554.25 million special drawing rights [SDRs], or roughly US$854.54 million) to 16 in June 2009 (with credit lines of 48,037.81 million SDRs, or roughly US$74,064.42 million).

Furthermore, in addition to existing frameworks, the IMF decided (October 29, 2008) to adopt a Short-Term Liquidity Facility (SLF) intended to provide swift, large-scale assistance. While the Stand-by Arrangements have primarily been used under existing frameworks, under the SLF, countries participating in capital markets may borrow up to 500 percent of their cumulative quotas, with a three-month maturity. While conditions for using the SLF include a good track record of sound economic policies and a sustainable debt burden, other aspects of conditionality required for the Stand-by Arrangements, such as policy implementation and policy monitoring, do not apply the SLF, which makes swift borrowing possible. In addition, in March 2009 the Flexible Credit Line (FCL) was established to enable drawing funds for purposes of crisis prevention with no promise of specific policy goals such as reduction of budget deficits or public debt. Through the end of June, arrangements had been decided on with three countries: Mexico, Colombia, and Poland. In February 2009, Japan signed a lending arrangement with the IMF to provide financial assistance of up to US$100 billion.

In step with the IMF, the World Bank too began providing emergency loans to developing nations faced with the plight of an outflow of investment funds. The International Bank for Reconstruction and Development (IBRD), a core institution of the World Bank group, announced that it was prepared to lend US$100 billion over three years. It increased the amount of loans made during 2008 to US$35 billion from US$13.5 billion in the previous year. In addition, it established a new emergency loan facility of US$2 billion as well as a framework for completing approval procedures over a short period of time through the International Development Association (IDA; total funds: US$42 billion). The World Bank also has come out with measures such as the following, which are to be conducted through its International Finance Corporation (IFC): a) expansion of the funding limit of the Global Trade Finance Program, intended to facilitate trade transactions (from US$1.5 billion to US$3 billion), b) establishment of a US$1 billion fund for capital injections to troubled banks in developing countries, and c) investment of US$300 million and shifting US$15 billion

from other resource-allocation categories to facilitate fund-raising for infrastructure-development projects. Japan has announced a contribution of US$2 billion toward establishment of the fund described under “b” above.

To enhance these initiatives, at the London Summit held April 2, 2009 (the second summit on financial and global economic conditions), an agreement was reached on US$1.1 trillion in programs, including enhancement of IMF funding and additional lending by international development financial institutions.

■ **Economic measures by each country’s government**

As the impact of the financial crisis on the real economy materializes, the focal point is currently shifting to government economic measures and their effects. Main economic measures undertaken by the governments of each country and region are (1) household financial assistance and employment measures (such as income-tax reductions, reductions of tax on mortgages, and provision of benefits to support standards of living), (2) assistance to businesses (cash-flow assistance for small and medium-sized enterprises), (3) stimulation of actual demand through growth in public-sector investment (such as development of airports, ports, and expressways), and (4) assistance to financial institutions (such as injection of public funds and raising limits on government capital participation). A unique point of these measures is the fact that the measures under category 2, assistance to businesses, incorporate many measures intended to encourage allocation of resources to the fields of energy security, environment protection, information technology and telecommunications due to their potential to drive the economy over the medium to long term, in addition to measures to assist specific industries such as the automotive and residential industries as well as assistance to small and medium-sized enterprises.

Ordinarily, it is said that when adopting a floating exchange rate system, use of fiscal policies causes the nation’s currency to increase in value through an increase in interest rates, in turn leading to a decrease in exports that cancels out the effects of fiscal expenditures on effective demand, ultimately rendering such policies ineffective. For this reason, monetary policy is considered more effective as a means of economic stimulus. However, since major central banks had already carried out substantial interest-rate cuts, they were left with limited room for further action. In addition, there was a need for emergency responses to present conditions in light of the marked drop in demand in the real economy. Accordingly, both developed and developing nations successively came out with economic stimulus measures through fiscal policies. The scale of these measures taken by the G20 appears to have risen to the level of roughly 2% of the total GDP. However, most of these measures have not borne enough fruit to offset the rapid drops in demand (Table I - 2).

== Table I-2 ==

(3) Risks and Issues Faced by World Economy

■ **Despite signs of bottoming out, downside risks have not been eradicated**

A look at the current economic indicators for major economies shows a number of signs suggesting that the downturn has reached bottom. In major economies, stock prices and both business and consumer confidence are improving steadily, and production activity has also begun to show signs of bottoming out (Figure I - 10). While the IMF’s World Economic Outlook, updated in July, revised the forecast real economic growth rate for 2009 down 0.1 percentage point from the April forecast to 1.4%, it also revised the forecast for 2010 up 0.6 percentage points to 2.5%.

== Figure I-10 ==

At the same time, worsening revenues and earnings in the business sector prolonged the slowdown in corporate capital investment and negatively impacted income and employment conditions, leading to a delayed strengthening of downward pressure on personal consumption. Protracted downturns in capital investment and personal consumption will result in continuation of the vicious circle in which business performance worsens as a result, leading to further worsening of employment and income conditions. Under conditions in which there are limits to creation of demand through fiscal policies adopted by each country, pressure on supply-side adjustments has not been eased, keeping down potential growth rates over the long term.

In addition, in the area of international finance, the possibility cannot be denied that under eased financial conditions, excess funds may flow into commodities and foreign-exchange markets, destabilizing international financial markets as a result. Viewed in terms of these factors, while at least the worst seems to have passed as of mid-2009, future downside risk does not appear to have been eradicated yet.

From a regional point of view, there is a need to focus on the effects on other countries and regions of a worsening of the currency and economic crises in Central and Eastern Europe. According to BIS statistics on international banking, as of the end of December 2008 the balance of credit provided by overseas financial institutions to developing countries in Europe totaled US$1,523.3 billion, of which more than 60% was denominated in foreign currencies. A breakdown by creditor nation shows that Austria had the largest share at US$267.1 billion (17.5%), followed by Germany at US$205.5 billion (13.5%), and Italy at US$198.3 billion (13.0%). Next came France, the Netherlands, and Sweden. The U.S. share was US$46.8 billion (3.1%), the U.K. share was US$35.2 billion (2.3%), and Japan's was US$25.4 billion (1.7%). The balance of credit provided to the three Baltic nations (Estonia, Latvia, and Lithuania), where economic conditions are particularly severe, was US$118.4 billion, of which Sweden provided US$79.1 billion, or nearly 70% of the total. For this reason, while it is highly likely that, even if the economic and currency crisis in this region were to worsen, the direct impact would be limited to the European continent, unexpected damage could be brought about to international financial markets as risk tolerance decreased among financial institutions in each country.

While the IMF's World Economic Outlook as of April projected positive growth in 2010 under the baseline scenario, it also suggested some risk scenarios in which negative growth would continue through 2009 and 2010 (Fig. I - 11). The World Bank's forecast as of June shows a more severe outlook than the IMF's April forecast, projecting a real growth rate of -2.9% in the world's economy in 2009 (-1.7% on a PPP basis with 2000 as the base year).

■ **Toward establishment of a foundation for mid- to long-range growth in Japan**

The global economic slowdown has had a massive impact on trade, which supports the Japanese economy. Japan's balance of trade in the quarter January - March 2009 was -US$9.7 billion, the third consecutive quarter since July - September 2008 in which the nation recorded a trade deficit. This is the first time the nation experienced three consecutive quarters of trade deficit since the period from the first quarter of 1979 through the third quarter of 1980 (seven consecutive quarters), when the value of imports increased rapidly as a result of the second oil crisis. In addition to decreased price competitiveness due to a rapid increase in the value of the yen beginning in September 2008, Japanese exports have structural problems that they depend heavily on equipment such as transport equipment, chiefly automobiles, and electrical equipment, as well as that high-end products account for a

large proportion. These negative factors, in conjunction with the deteriorating income environment, dampened demand for these products with high income elasticity. This rapid decrease in exports and the resulting decrease in capital investment and slowdown in consumption have been very trying on the Japanese economy.

Meanwhile, attention should be given to the fact that Japanese income from overseas is supported not just by exports but by balance on income as well. A look at balance of payments statistics shows that balance on income, which consists mainly of factors such as interest and dividends from overseas investments, has surpassed the balance-of-trade surplus since 2005, and that the balance on income in 2008 totaled US$152.5 billion in the black, greatly exceeding the balance of trade (in goods and services) of US$17.8 billion. After experiencing circumstances such as yen's appreciation, Japanese businesses have invested aggressively overseas since the 1980s. With domestic markets maturing in recent years, they have more aggressively been developing local overseas markets. Such behavior by businesses is reflected in the makeup of income from overseas, easing the damage from falling exports. The significance of exploring overseas markets, particularly emerging markets, for Japan is likely to increase even more in the future, as domestic markets mature and the domestic population decreases. In line with this, the importance of capitalizing on the vitality of emerging countries through not just exports but also investments is likely to increase as well. Markets related to the environment and energy conservation in particular, which are being focused on in the economic policies of each country and region and provide a number of areas where Japanese firms have the competitive edge, are expected to have strong growth potential over the mid- to long term.

The global financial crisis has greatly shaken not just the epicenter of the U.S. but developing countries and regions in Europe, Asia, and elsewhere and has proved trying to the Japanese economy as well. However, the financial crisis and the recent increase in the value of the yen also can be seen to be providing a good opportunity for Japanese companies to establish their presence more firmly in overseas markets. Whether Japan will be able to overcome this crisis and secure a foundation for mid- to long-term growth depends on whether it can use its experiences in past crises to resolve to turn this crisis into an opportunity.

2. World Trade

(1) 2008 World Trade Entered Downward Phase in October

World trade in 2008 (merchandise trade, nominal basis) showed an increase of 14.9% yoy in exports to US$15.9 trillion and an increase of 15.2% yoy in imports to US$16.8 trillion (Table I-3). Both exports and imports showed double-digit growth for the sixth consecutive year. On a real basis, excluding price changes and the impact of foreign exchange, the rate of growth in exports slowed from 5.6% in 2007 to 3.8% in 2008, while the rate of growth in imports slowed from 7.0% in 2007 to 3.5% in 2008.

== Table I-3 ==

The growth rate in world trade can be broken down into two parts, the price factor (import and export price indices) and the volume factor (import and export volume indices, real imports and exports). In 2008, export prices grew by 11.1% and import prices grew by 11.7% (both dollar-based, IMF), and as in 2007 the price factor significantly outpaced the volume factor. With significant impact on rising prices of commodities such as fuel and food, primary product prices rose by 27.5% and energy prices, in particular, grew massively by 40.1% (Table I-4). In addition, the weaker dollar in 2008 than in 2007 boosted the dollar-based value of worldwide trade. In this way, exchange-rate fluctuation factors also contributed to growth in the value of trade in 2008.

== Table I-4 ==

While both exports and imports grew on a yearly basis, they entered a downward phase in October. While both showed two-digit rates of yoy growth in each month from January through September, a negative growth was recorded in both exports and imports in November (Figure I-12), for the first time in six years and eight months since the period from May 2001 through March 2002, when trade fell as a result of factors such as the collapse of the IT bubble.

== Figure I-12 ==

The rapid decrease in exports and imports was brought about by not just falling prices due chiefly to adjustments in commodities markets but also by decreases in trade volume resulting from falling demand in major developed economies. Commodities markets, which had followed virtually an upward path since 2002, peaked in early July 2008 and then entered a downward phase. Although the Reuters/Jefferies CRB Index, an indicator of general trends in commodities markets, recorded an all-time high (473.52 points; based on closing prices) in July, it then had fallen 55.9% from the high to 208.60 points in December.

Volume factors show a massive drop beginning in October, in response to decreasing demand for transportation equipment and other products. Real imports (seasonally adjusted) in the U.S. and the U.K. shows that the real import index as of December 2008, with January 2007 as the base period, had fallen from January 2007 by 10.6% in the U.S. and by 9.3% in the U.K. (Figure I - 13, Figure I - 14)

== Figure I-13 ==

== Figure I-14 ==

■ **The Slowdown in the Markets in Developed Economies Spreads to Emerging and Developing Economies**

In 2008, exports (nominal basis) grew by 10.7% yoy to US$9,619.7 billion in developed economies and those jumped by 21.9% yoy to US$6,271.1 billion in emerging and developing economies (Table I-5). The fact that emerging and developing economies provide an underpinning for world trade is a characteristic of recent years, and it was also witnessed in 2008 with higher rates of growth in both exports and imports recorded in emerging and developing economies than those in developed economies. Exports from emerging and developing economies to developed economies, however, had fallen substantially since November, due to falling commodities prices and sluggish demand in developed economies. Although exports from emerging and developing economies showed double-digit yoy growth from January through October, negative growth was posted in November (Table I-6).

== Table I-5 ==

== Table I-6 ==

The U.S. imports, which accounted for 14.9% of world imports on a value basis in 2007, grew by 7.5% to US$2,337.4 billion in 2008. Monthly figures show that the growth rate fell to below zero beginning in November, due to factors such as a rapid drop in crude-oil prices and a sudden decrease in domestic consumption (Figure I-15). The other developed economies such as Germany and France also shows that the value of imports posted double-digit yoy growth from January through September, it fell yoy beginning in October as a result of factors such as a drop in imports of transport equipment dented by decreased passenger-vehicle demand.

== Figure I-15 ==

Meanwhile, exports from emerging and developing economies shows that full-year exports from China grew by 17.3% to US$1,428.9 billion, reflecting a slowdown from the 25.7% growth in 2007. It was the first time in seven years that Chinese exports grew by a yoy rate of less than 20 percent since 2001 when exports were affected by the slowdown in the U.S. economy and the September 11 terror attacks. The gap between the largest exporter economy, Germany (whose exports grew by 10.8% to US$1,464.7 billion) and China, however, shrunk from US$104.3 billion in 2007 to US$35.8 billion in 2008. Some experts consider that China is poised to surpass Germany in terms of value of exports in 2009.

While the monthly value of exports from China recorded double-digit yoy growth nearly uniformly from January through October, it started to post a yoy decline in November (Figure I-16). The plummeting Chinese exports was attributed to a substantial decrease in exports to the U.S. and Hong Kong, which accounted for 19.1% and 15.1%, respectively, of China's total exports in 2007. Taking it into consideration that the majority of China's exports to Hong Kong are re-exported to Europe and the U.S., the real reason behind the slump of Chinese exports is believed to be the stagnating European and the U.S. economies.

== Figure I-16 ==

With regard to exports from other emerging and developing economies, exports from Brazil slowed down beginning in October hit by decreased overseas demand due to the financial crisis and falling resource prices. Exports from India recorded strong growth of more than 20% over the year-earlier period from January through August, driven by the depreciation of rupee. Later, the growth rate slowed due to factors such as a slowdown in developed economies' markets resulting from the financial crisis. Falling by 12.4% in October, India's exports recorded a yoy decline for four consecutive months through January 2009.

■ **The Impact of Deepening U.S.-China Trade Ties on Asian Economies**

In November, the value of Chinese imports fell yoy, affected by a drop in imports from Taiwan, South Korea, and elsewhere. Due to factors such as falling prices of primary products, for which china relies on import, and a slowdown in growth of industrial production, imports of industrial goods and capital goods decreased. Possible main causes of this massive drop in Chinese exports and imports over a short period of time are deepening trade relations between the U.S. and China and increasingly close ties within the Asia region.

Through now, trade relations between China and the U.S. have grown closer, with the trade intensity index (export basis) between the two nations rising from 0.5 points in the 1980s to 1.0 points in the 1990s and 1.3 points in the 2000s (Table I-7)[2]. In addition, the ratio of the value of exports to the U.S. in China's GDP has also increased from 0.7% in the 1980s to 2.9% in the 1990s and 5.9% in the 2000s, meaning that the Chinese economy has become increasingly exposed to the moves of the U.S. economy (Table I-8).

== Table I-7 ==

== Table I-8 ==

China is growing closer to the Asian economies through the expansion of production networks aiming at the sharing of production processes between them. In South Korea, the trade intensity index with China (export basis) has risen from 2.1 points in the 1990s to 3.5 points in the 2000s. Over the same period, this index rose from 1.0 to 1.4 points in Singapore, from 1.0 to 1.2 points in Malaysia, and from 0.8 to 1.4 points in Thailand. In addition, the ratio of the value of exports to China to each economy's GDP rose from the 1990s to the 2000s as follows: from 1.6% to 5.7% in South Korea; from 3.3% to 12.2% in Singapore; from 2.0% to 6.0% in Malaysia; and from 0.8% to 4.1% in Thailand. In this way, these economies' dependency on China is increasing.

As a result, each Asian economy not only has been affected directly by the economic downturn in the U.S. but also has suffered damage through the slowdown in the Chinese economy. While the monthly value of exports from South Korea had grown at double-digit yoy rates through September, it slumped beginning in October and recorded negative growth beginning in November. South Korea's exports by country and region shows that the largest factor behind this slowdown was a decrease in exports to China. Most of South Korea's exports to China consist of intermediate goods, which, after being processed in China, are exported to other countries as final goods. For this reason, the decrease in exports from China due to the global economic slump can be seen as a major cause of the

[2] Trade intensity index is an indicator of the degree to which trade relations between two economies differ from standard worldwide trade volume. A trade intensity value greater than 1 indicates close trade relations between the two economies.

decrease in South Korea's exports to China. Exports from the ASEAN member states of Singapore, Malaysia, and Thailand fell yoy beginning in October, also due in part to decreased exports to China.

(2) Slowdown Centered on Machinery and Equipment Began in October

Considering 2008 export trends by product, machinery and equipment accounted for roughly 40% of world trade, was weak, rising by 7.3% over the year-earlier, to US$6,024.8 billion. By contrast, exports in primary products for the most part showed double-digit growth, with the figure for mineral fuels rising by 44.4% to US$2,562 billion and that for grains rising by 40.7% to US$98.1 billion (Table I-9). Thanks to the contributions of mineral fuels and other items, the monthly value of imports in the major 20 economies recorded double-digit growth rates from January through September (Figure I-17). In October, trade in items such as transport equipment and electrical equipment slowed. While many products saw their trade fall yoy, due primarily to falling commodities prices and restraint and decreases in consumption resulting from the financial crisis, the impacts on pharmaceutical and medical supplies and on clothing were relatively limited.

== Table I-9 ==

== Figure I-17 ==

Automobile exports grew by 2.6% to US$781.6 billion, reflecting a substantial slowdown from 2007 (when exports grew by 17.8% to US$761.5 billion). Monthly automobile imports by country and region shows falling growth rate beginning in October, due to a slowdown in demand in developed economies, chiefly in Europe and the U.S. (Figure I-18). Steel exports also, which grew massively over the course of the entire year by 21.7% to US$828.9 billion, entered a downward phase beginning in October. According to the World Steel Association, worldwide production of crude steel fell yoy in 2008 for the first time since 1998, ten years earlier. The worsening of the real economy that started with the financial crisis put the brakes on steel production.

== Figure I-18 ==

By contrast, while exports of pharmaceuticals and medical supplies showed negative growth yoy in November, they returned to positive growth in December. This can be seen as a reflection of the nature of such products as essentials not easily affected even by an economic slowdown. Imports of clothing also rebounded in December. At the same time, clothing exports from China, the largest exporter of clothing, showed positive yoy growth since October. It appears that consumers' low-price orientation strengthened as consumption contracted in each market, which boosted demand for cost-competitive Chinese goods. During 2008, the Chinese government twice (in August and November) increased the rate of refund on value-added tax on textiles and apparel products.

Exports of information-technology products (finished IT products such as computers and video equipment and IT components such as semiconductors) totaled US$2,065.5 billion, accounting for 13.0% of world exports (Table I-10). China has been the largest exporter since 2004 (with its IT exports totaling US$422.1 billion in 2008), and its share of global IT exports has risen from 19.1% in 2007 to 20.4% in 2008. On the other hand, the share of the U.S., the second-largest exporter of IT products (US$189.7 billion), fell from 9.6% in 2007 to 9.2% in 2008, with the gap between the two countries broadening.

== Table I-10 ==

■ **Primary Products Are in a Downward Trend as Well**

While trade in primary products such as crude oil and grains grew for the year as a whole, it began to fall in the second half of the year.

Exports of crude oil, which account for more than 50% of mineral-fuel exports, grew by 43.1% yoy to US$1,418.6 billion. Crude oil exports by country and region shows an increase of 53.2% to US$229 billion in Saudi Arabia, followed by an increase of 36.2% to US$150 billion in Russia. Although Russia's crude oil production volume fell due to factors such as low drilling efficiency as the country faced a backlog in development of new oil fields, its crude oil exports in terms of value grew for the year, benefiting from factors such as rapidly increasing crude oil prices in the first half of 2008. In November, the value of exports showed negative yoy growth, due to the impact of falling global prices in the second half of 2008 (Figure I-20).

== Figure I-20 ==

Crude oil prices fluctuated widely in 2008. Both Brent and Dubai crude oil prices saw a record high on the New York Mercantile Exchange (NYMEX) in terms of crude oil futures (nearest futures, closing price) of US$145.29/barrel on July 3[3]. Although the price later remained in an adjustment phase for a while, the withdrawal of funds from crude oil futures markets triggered by the financial crisis in September caused the price to tumble 76.7% from the high to US$33.87/barrel by mid-December.

While grains prices remained high through the first half of 2008 as well, they were in a downward phase toward the end of the year. For example, wheat prices (nearest, closing price) at the Chicago Board of Trade (CBOT) recorded a record high of US$12.80/bushel on February 27, 2008, due primarily to the fact that the increase in U.S. winter wheat acreage had been less than the market had expected. Later, prices fell due to factors such as expectations of massive increases in global production volumes, withdrawal of funds from commodities markets, and expectations of decreased demand for grains as a result of the global economic slowdown. In early December, the price fell to US$4.58, or 64.2% less than the peak price.

The value of monthly exports of wheat, which account for more than 40% of grains exports, slowed in the second half of the year (Figure I-21). Due to concerns about inflation, China constrained exports through means such as imposition of export duties and implemented measures to expand domestic supply. However, its measures to restrain food exports were eased beginning December 1, as inflation pressures also eased. In addition to removing export duties on corn and special export duties, China also decreased export duties on wheat.

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[3] Crude oil forming the basis for the price of each type of crude oil is referred to as benchmark crude oil. In the U.S., this is West Texas Intermediate (WTI) crude, in Europe it is Brent crude, and in the Middle East it is Dubai crude. On a global basis, NYMEX's WTI crude futures price virtually determines the WTI crude spot price and the Brent crude futures price, traded in London, and these affect the formation of the Dubai crude futures and spot prices in the Middle East.

== Figure I-21 ==

(3) World Trade in 2009, under Conditions of Uncertainty about the Future

Global trade statistics for the 17 major economies, for which quarterly data through the first quarter of 2009 is available, shows that exports fell by 28.4% yoy to US$1,562.5 billion in the first quarter of 2009, while imports fell by 26.9% to US$1,662.1 billion (Table I-11). Monthly figures show that exports and imports in March 2009 fell by 27.3% and 28.9% yoy, respectively, improvements from the drops of 30.0% and 30.5% yoy, respectively, in February (Figure I-22, Figure I-23).

== Table I-11 ==

== Figure I-22 ==

== Figure I-23 ==

Imports of machinery and equipment fell by 30.5% yoy in February but fell by 28.2% yoy in March. Imports of automobiles, in particular, fell by 53.1% yoy in February but fell by 44.2% yoy in March. In this way, the pace of the declines is easing gradually. In fact, trends in real imports in the U.S. and the U.K. have shown improvements since the start of 2009. Overall U.K. imports show signs of having bottomed out in March. An index of real imports, with a value for the base period of January 2007 set as 100, shows a slight increase from 84.5 points in March 2009 to 86.2 points in April (Figure I-14). Meanwhile in the U.S., although the corresponding indicator continued dropping, which stood at 77.5 points as of April, imports of automotive vehicles, which had been showing massive declines until then, showed signs of bottoming out (Figure I-13).

Double-digit negative yoy growth in major economies' trade, however, has continued into 2009. In addition, since it is likely that rising commodities prices will encumber consumption and production, it is difficult to predict a full-fledged recovery from the impact of the financial crisis[4]. Under these circumstances, the WTO predicted as of the end of March 2009 a growth rate in global real exports for 2009 at -9.0% from the previous year.

(4) Global Trade in Services Rose by 11.3% in 2008

In 2008, trade in services (exports of commercial services, excluding government services) rose by 11.3% yoy to US$3.73 trillion (Table I-12).

== Table I-12 ==

Trade in services by category shows an increase of 14.7% to US$873 billion in transportation services, an increase of 10.0% to US$947 billion in travel services, and an increase of 10.4% to US$1.91 trillion in other services (including financial, insurance, and communications services, as well as royalties and licence fees etc.).

In the area of transportation services, according to the International Air Transport

[4] The Reuters/Jefferies CRB Index began rising after bottoming out in March, as commodities prices began to surge. The Baltic Dry Index (BDI), and indicator of marine transportation costs, has also been increasing rapidly, recovering to 3,742 pints by July 2 after having dropped as low as 663 points in December 2008.

Association (IATA), growth in international passenger air travel (revenue passenger kilometers basis) slowed from 7.4% growth in 2007 to 1.6% growth. International air cargo transportation (freight tonne kilometers basis) fell by 4.0%, after increasing by 4.3% in 2007. While cargo transportation had already fallen yoy as of June, the pace of the decline accelerated beginning in September, due to worsening economic conditions in developed economies (Figure I-24). Growth in passenger transportation also has remained in the negative range since September 2008. While both cargo and passenger transportation show signs of having bottomed out in 2009, future moves must be observed carefully.

== Figure I-24 ==

In the area of travel services, the United Nations World Tourism Organization (UNWTO) estimates international tourist arrivals in the world in 2008 to have risen by 1.7% to 924 million. This figure reflects a slowing in the pace of growth, from 6.7% in 2007. As a result of factors such as decreasing consumer and business confidence due to uncertain global economic conditions, the yoy rate of growth went negative in the third quarter. This decreasing trend appears to be continuing into 2009, in which the number of tourists in the world is forecast to decrease 7.7% yoy.

Trade in services in 2008 by country and region shows that, in the U.S., the leader in both exports and imports of services, exports rose by 10.4% yoy to US$522 billion, while imports rose by 6.4% yoy to US$364 billion (Table I-13). According to the U.S. Department of Commerce, visitors from overseas increased in the first half of 2008 due to factors such as the low value of the dollar, and exports of travel services increased in 2008 as a whole. The growth rate in other services as a whole was weak for both exports and imports due to factors such as a slowdown in the growth rate for both exports and imports of financial services in the second half of the year.

== Table I-13 ==

In the EU, both exports and imports of services grew by 10.1%, to US$1.74 trillion and US$1.52 trillion, respectively. The WTO states that exports decreased in the fourth quarter due to factors such as the rising value of the dollar.

Trade in services in Asia showed an increase of 12.0% in exports to US$837 billion, and an increase of 12.5% in imports to US$858 billion. As part of these figures, both Japanese exports (up 13.4% to US$144 billion) and imports (up 11.4% to US$166 billion) grew at rates higher than those for the world as a whole. Japan outpaced Spain to take the position of the fifth-largest exporter of services.

3. Global Direct Investment & Cross-Border M&As

(1) Global Direct Investment Falls by 25.0% in 2008

Global inward foreign direct investment (FDI, JETRO estimates, net flows based on balance of payments) fell by 25.0% yoy in 2008 to US$1,834.6 billion (Table I - 14). This was the first drop in inward FDI in five years, after it had shown continued growth since 2004 and recorded a historical high of US$2,446.7 billion in 2007.

== Table I-14 ==

Spurred by the worsening of the fund-raising environment beginning in the second half of 2007, worldwide cross-border mergers and acquisitions (M&As), which account for a large share of FDI, began to fall. Furthermore, the worldwide economic slowdown eroding business revenues appears to have led to a decrease in funds allocated by businesses for investment. Revenues of foreign subsidiaries also worsened, causing reinvested earnings (undistributed profits internally reserved by foreign-affiliated subsidiaries within a region), a component of FDI, to show a decreasing trend in developed nations.

Looking at figures for developed and developing nations separately shows that inward FDI in developed nations (31 countries and regions based on IMF categories) fell by 35.3% to US$1,183.7 billion. In Europe in particular, losses were substantial in financial markets due to factors such as a succession of cases of bankruptcy or nationalization of financial institutions, leading to drops of roughly 50% in both inward FDI and inward M&As. On the other hand, developing nations saw an increase of 5.4% to US$650.9 billion. In markets such as East Asia and India, where domestic demand remained steady, and Central and South America, which attracted investment in resources, figures were relatively strong. FDI in developing countries as a share of the worldwide total grew by 10.2 percentage points to 35.5 % (Figure I - 25).

== Figure I-25 ==

Worldwide, outward FDI decreased by 12.7% to US$2,176.6 billion. While theoretically the global figures for inward and outward FDI should match, in reality discrepancies occur on account of differences in statistical methods between countries[5]. These statistical differences between countries are thought to have been particularly large in 2008, due to quite a number of capital transfer transactions between parent companies and their subsidiaries.

■ **Investment in the EU halved, while capital inflows to the U.S. increased**

Inward FDI in the 27 EU nations (referred to collectively as “EU” hereinafter) was US$731.1 billion, reflecting a drop of roughly one-half from the 2007 figure of US$1,350.7 billion. As a result of damage to the balance sheets of financial institutions due to a global contraction of credit, the fund-raising environment worsened rapidly, and the trend toward industrial reorganization within Europe, which had been marked over the past several years, slowed somewhat. Damage in Europe was comparable to that in the U.S., as, for example, major financial institutions such as the Royal Bank of Scotland in the U.K., Fortis in Belgium,

[5] Definitions of FDI, evaluation methods, and the timing of recording statistics, such as minimum amounts recorded, handling of reinvested earnings and subsidiaries of subsidiaries, and handling of remittance of profits and transactions with offshore companies, differ from country to country.

Dexia in France, and Hypo Real in Germany, received injections of taxpayer funds or underwent temporary nationalization. A look at inward FDI in the leading EU nations (EU15) by quarter also shows a decreasing trend in 2008 (Figure I - 26).

== Figure I-26 ==

According to Eurostat, the Statistical Office of the European Commission, FDI from outside the EU region fell by 48.7% to US$252.9 billion, while FDI within the region fell by 41.9% to US$470.5 billion. FDI from outside the region was impacted strongly by the fact that FDI from the U.S. fell by 73.5%, to just US$65.4 billion. FDI from offshore financial centers (defined by Eurostat to include 38 countries and regions) such as the Cayman Islands (a British overseas territory) fell by 42.5% to US$66.0 billion.

A look at figures by country shows a drop of roughly one-half from the previous year in the United Kingdom. Net inflows of equity capital (such as acquisition of new shares of stock) decreased by 48.2% to just US$90.9 billion, due to a decrease in large-scale M&As. Reinvested earnings also decreased by 39.5 %. On the other hand, net inflows increased yoy to US$53.1 billion in the first quarter of 2009, as loans to their U.K. subsidiaries by foreign firms increased rapidly.

The drop in inward FDI was large in the Netherlands and Luxemburg as well. Since new investment in equity capital from outside both inside and outside Europe decreased, it appears that transit investment through special-purpose enterprises (SPEs) located in both countries has decreased. The fact that a large M&A in the financial field took place in 2007 in the Netherlands was another reason behind the depressed inward FDI in that country.

Chaos in financial markets led to withdrawal of funds invested in EU nations, with Finland and Ireland seeing net outflow of funds. Among new members of the EU, outflow of funds progressed rapidly in Hungary and Latvia, which were designated to receive IMF aid beginning in the second half of the year, resulting in a large decrease in net inward FDI.

The EU's outward FDI decreased by 25.2% to US$1,188.4 billion, a smaller decrease than that sustained by inward FDI. A primary reason for this difference is the fact that FDI directed toward the U.S., focused on manufacture of products such as food and pharmaceuticals, was robust. According to Eurostat, the EU's FDI in the U.S. increased by 9.7% to US$218.6 billion. At the same time, outward FDI directed outside the EU zone as a whole decreased by 21.7% to US$519.1 billion, while outward FDI directed inside the EU zone decreased by 28.0% to US$636.0 billion.

While FDI in the EU decreased considerably, inward FDI in the U.S. saw an increase in inflows, rising by 15.9% to US$319.7 billion (Table I - 15). Moves toward acquisition of U.S. firms, as investors sought bargains resulting from falling stock prices, were active. Furthermore, fund-raising by U.S. financial institutions to enhance their capital was brisk. As a result, FDI from Europe (rising by 19.8% to US$206.5 billion on a book-value basis) and from Japan (rising by 38.0% to US$35.7 billion on a book-value basis) was concentrated on the U.S. On the other hand, in the second half of the year repatriation of funds from foreign-owned subsidiaries in the U.S. to the nations of their parent companies frequently took place, and lending of funds between parent companies and subsidiaries resulted in net capital outflow.

In the first quarter of 2009, inward FDI in the U.S. decreased by 40.7% yoy to as low as US$35.3 billion. Deterioration of the revenue situation of foreign-owned subsidiaries in the U.S. caused US$8.3 billion net outflow of reinvested earnings. Inflows of equity capital was also sluggish, falling by 47.5% to US$22.2 billion.

Meanwhile, outward FDI from the U.S. fell by 16.7% yoy to US$332.0 billon. In 2008,

outward M&A activity in the U.S. halved, which slashed FDI in the form of equity capital by 48.4%. Many of these cases appear to have been carried out in forms such as capital increases intended to enhance the capital of overseas subsidiaries whose business performance had worsened. One example is Citi's capital increase (approximately US$3.6 billion) in Nikko Citigroup in the second half of the year. Also in the second half of the year, recovery by U.S. parent companies of loans extended to their subsidiaries accelerated, and the balance of other capital showed net inflow of US$29.5 billion. Looked at by country and region, US FDI in China was active, which nearly trebled to US$15.7 billion (on a book-value basis).

Reinvested earnings account for the majority of U.S. outward FDI, and although they were in a decreasing trend beginning in the second half of 2008, they reached75.8% of the total, or US$251.5 billion. Since 2006, internal reserves of overseas subsidiaries of U.S. firms accumulated as FDI in the form of reinvested earnings. On this point, the new administration in the U.S. is advancing efforts to eliminate deferred taxation on income earned by overseas subsidiaries, claiming that the exiting method of taxes deferred until income is transferred back to the U.S. prevents return of income to the United States. There is a possibility that a change in the taxation system would encourage transfer of internal reservesto the U.S., statistically decreasing reinvested earnings in outward FDI.

■ **Asia remains strong, led by China and India**

Inward FDI in East Asia increased slightly by 2.2% yoy to US$269.1 billion. In China, investments such as those directed to its inland regions and those related to service industries remained strong. China also saw a more than threefold increase in outward FDI. Total outward FDI from East Asia was also robust, rising by 12.3% to US$168.5 billion.

Inward FDI targeted at China rose by 6.8% yoy to US$147.8 billion, making the nation the second-largest recipient of FDI in 2008, after the United States. According to the State Administration of Foreign Exchange's data on inward FDI broken down by country and region, inflows from Hong Kong had an overwhelming share at US$70.1 billion (gross). Results by region of China show an increase of 19% in 2008 in investment in western China, including Sichuan Province and the city of Chongqing. By contrast, investment in eastern China, including the city of Beijing, tumbled 14% yoy. New investment in coastal regions, which had continued to see rapid advancement, decelerated somewhat. Viewed by industry, a yoy increase of 88% in inflows in the financial sector to US$14.7 billion (gross) was recorded. A look at inward FDI trends shows major growth in FDI directed to non-manufacturing and services-related industries. For example, in 2008 investment in mining grew by 41% and that in education grew by 46%. On the other hand, investment in manufacturing sectors fell by 8%. Even among non-manufacturing industries, real-estate and infrastructure-related investment fell, with real-estate investment decreasing by 30% and investment in construction and in transportation and shipping falling by 10% each.

Outward FDI by China soared 214.6% yoy to US$53.5 billion. Outward M&A activity by Chinese firms has become increasingly brisk, with the share of FDI in non-financial sectors accounted for by M&As rising to 50% according to the State Administration of Foreign Exchange. In China, the Banking Regulatory Commission lifted in December 2008 the prohibition of M&A financing by commercial banks for the first time in 12 years, and in May 2009 an FDI law went into effect to simplify application procedures and screening for outward FDI by Chinese firms. These systemic changes are also likely to help accelerating outward FDI from this point onward.

Among other economies in East Asia, inward FDI in Hong Kong increased by 15.9% to US$63.0 billion. Corporate income-tax regulations that took effect in 2008 resulted in a 10% tax on dividends paid by companies that have advanced into China to their home countries. Since in principle this tax is 5% for dividends paid to Hong Kong, there appears to be an

active movement toward establishment of parent companies in Hong Kong by enterprises conducting FDI in China. In addition, beginning in July 2009 prohibitions were lifted on direct investment by Chinese firms in Taiwan, chiefly in manufacturing industries, a move likely to lead to an increase in direct investment in that region.

FDI in the ASEAN5 economies decreased by 17.1% to US$50.7 billion, with FDI falling in most nations. Only Indonesia saw inward FDI increase, rising by 20.4% to US$8.3 billion as firms that had already advanced into the market expanded their investments, in response to booming domestic demand.

On a new-approvals basis, inward FDI in Vietnam remained strong, rising by more than threefold yoy to US$60.3 billion. Vietnam approved a succession of large-scale investments, including investments in facilities such as steel mills and petrochemical plants. At the same time, projects approved also included many resort developments, causing concerns that the investments might not take place under sluggish economic conditions. It is possible that the revisions to the reductions of and exemptions from corporate taxes in 2009, limiting these to high value-added fields such as high technology, could be a negative factor as well.

Inward FDI in India maintained high growth, jumping by 68.3% yoy to US$41.1 billion. On an execution basis (according to the Ministry of Commerce and Industry), inward FDI increased by 72.4% to US$33.0 billion. A look at these figures by industry shows high rates of growth in the shares of inward FDI in the financial industry, rising by 195.9% to US$4.0 billion, and the telecommunications industry, rising by 140.8% to US$2.6 billion. In addition, investment in the automotive industry was high as well, rising by 208.5% to US$1.1 billion. Investment in the nation's port infrastructure totaled US$1.4 billion, and it appears likely that greater international procurement will take place in the future as well, under the government's ports development project. Growth slowed in FDI in computer-related industries, which already had accumulated, as such investment fell by 24.4% to US$1.8 billion.

■ The Central and South America regions demonstrate their presence

According to the UN Economic Commission for Latin America and the Caribbean (ECLAC), inward FDI in Central and South America and the Caribbean (not including offshore financial centers such as the Cayman Islands) grew by 13.4% yoy to record an all-time high of US$128.3 billion. Countries such as Brazil (up 30.3%), Chile (up 33.5%), and Colombia (up 16.7%) saw double-digit growth as they did last year. While rising resource prices slowed in the second half of 2008, considerable resource-related investment intended to secure interests in resources from a long-term perspective was apparent. At the same time, investment decreased in countries highly dependent on the U.S. economy, such as Mexico and Central American nations, as a result of the economic downturn in the U.S. While the U.S. had the largest share of FDI in Central and South America at 24%, the shares of Canada (8%) and Japan (6%) increased due to growth in resource projects.

Inward FDI in Russia remained on an increasing trend, rising by 27.7% to US$70.3 billion. However, Russia experienced considerable effects of the financial crisis and rapid drops in resource prices, which led to the negative growth of -9.5% in real GDP in the first quarter of 2009, with the nation's inward FDI falling by 38.4% yoy in the fourth quarter of 2008. The majority of equity capital flowed in from tax havens such as Cyprus and the Bermuda Islands (a British overseas territory), a sign of a not inconsiderable return of Russian capital for purposes of tax reduction and asset preservation.

FDI targeted at Africa maintained a high level, rising by 34.7% yoy to US$72.0 billion (according to UNCTAD estimates). While inward M&A activity decreased worldwide, M&A activity targeted at Africa, centered on resource- and infrastructure-related activity, rose rapidly, climbing by 57.6% to US$29.0 billion.

■ **Decreases predicted to continue in 2009 as well**

In 2009, each country is projected to see major decreases in economic growth rates, and cross-border M&A activity is predicted to continue to decrease. For these reasons, global FDI is expected to continue to fall. Inward FDI in 31 developed countries and regions fell by 47.6% yoy in the first quarter of 2009. UNCTAD figures show worldwide decreases of 54% in inward FDI and of 57% in outward FDI in the first quarter, and they indicate that if current trends continue, FDI will be nearly halved in the full year of 2009. The OECD also forecasts a drop of roughly one-half in inward FDI in the 30 member nations.

As to be described below, worldwide M&A activity in the first half of 2009 fell by more than one-half yoy. Since it has been demonstrated by actual results that FDI and M&A activity are closely related (Figure I - 27), global FDI is projected to see a massive drop in 2009.

== Figure I-27 ==

FDI targeted at developing countries, which increased slightly in 2008, is projected to also decrease over the short term, as a decrease in investment from developed countries proves unavoidable due to worsening business profits. In particular, an economic recovery in developed countries is essential to revitalize capital investment and investment in export industries.

UNCTAD reports that many multinationals are in the process of reducing costs and workforces, and are cautious about new direct investment, whether in the form of M&A activity or greenfield projects. Taking this into account, it projects a recovery beginning around the middle of 2010 as a fundamental scenario for trends in global FDI.

(2) Global M&A Activities Decrease for the First Time in Five Years

The total amount of cross-border M&A activity worldwide in 2008 (deals completed in 2008) fell by 25.0% yoy to US$1,213.1 billion[6]. As is the case with the total value of FDI, the value of global M&A activity, which had continued to grow since 2004 and recorded a record high in 2007, fell for the first time in five years as M&A activity by European and U.S. firms slowed due to the impact of the financial crisis (Figure I - 28). The number of M&As was 9,350, reflecting a yoy drop of 8.3%.

== Figure I-28 ==

[6] Source: Thomson Reuters data (as of July 6, 2009). While FDI statistics on an international balance of payments basis represent the difference between outflows and inflows (net figures), M&A figures are calculated by totaling values upon completion of individual M&As (gross figures). M&A transactions in which the nationality of the ultimate parent company differs from that of the company invested in are defined as cross-border M&As. Under this definition, some M&As between residents or between nonresidents, not recorded in FDI statistics, are included in cross-border M&As. In addition, FDI statistics include only investments of 10% share or more, and some cases, in which funds were raised in the country where the acquisition took place, are not included. In cases such as these, definitions and categories of FDI statistics and M&A data may differ. However, in terms of actual results, M&As account for a large share of FDI, and the two moves more or less in the same way. In all cases in this chapter, "M&A" refers to cross-border M&As.

Global M&A markets continue to be characterized by conditions in which fund-raising is difficult, chiefly in Europe and the U.S. In particular, in 2008 the decrease in M&As for non-business purposes, such as those by investment funds raising acquisition funding primarily through loans, fell massively by 40.6% to US$215.5 billion. Large-scale M&As also decreased beginning in the second half of the year, as the number of acquisitions valued at more than US$10 billion fell by about one-half from 11 in the second half of 2007 to five in the same period of 2008. Cancellation of large M&A plans due to fund-raising difficulties and worsening economic conditions also stood out. In addition to cancellation of the purchase of Rio Tinto of the U.K. (for US$188.2 billion) by BHP Billiton of Australia, the largest resources firm in the world, other cases included a major Swiss resources firm, Xstrata, giving up on its acquisition of a British platinum producer, Lonmin (estimated at US$10 billion), and South Korea's Samsung Electronics abandoning its plans to purchase a U.S. IT firm, SanDisk (estimated at US$5.9 billion). It can be said that the worsening of financial conditions has put the brakes on the trend over the past few years of successive large-scale acquisition funded by aggressive borrowing.

■ **Marked decreases in acquisitions by U.S. and U.K. buyers**

A look at figures by country and region shows that M&A activity worldwide targeting firms headquartered in the EU region decreased by 41.2%. At the same time, M&A activity targeting U.S. firms maintained the high level recorded in 2007, rising by 1.0% to US$328.8 billion. Led by the acquisition of Anheuser-Busch of the U.S. (US$60.4 billion) by a leading Belgian brewer, InBev (Table I - 16), an array of acquisitions of U.S. firms, whose share prices appeared to be undervalued or who had weakened due to the economic slowdown, took place. Other examples include the purchase of a pharmaceutical firm, Alcon (US$10.5 billion), by a major Swiss pharmaceutical firm, Novartis, the purchase of a power holding company, Energy East (US$8.1 billion) by a major Spanish power firm, Iberdrola, and the purchase of a data services firm, NAVTEQ (US$7.6 billion) by a leading Finnish IT firm, Nokia. Acquisition of and capital increases in U.S. financial institutions, which suffered losses due to the financial crisis, also stood out. In addition to investment by Mitsubishi UFJ Financial Group in Morgan Stanley of the U.S. (US$7.8 billion), other examples include the purchase of a U.S. financial institution, Commercial Bancorp (US$8.6 billion), by Canada's Toronto Dominion Bank.

== Table I-16 ==

Against a background of credit contraction on the part of European and U.S. financial institutions, acquisitions by firms in developed nations have decreased massively. In particular, the shares of the two leading nations in terms of acquisition values fell markedly, with U.S. M&As falling by 50.2% to US$149.3 billion and U.K. M&As dropping by 56.1% to US$138.1 billion. Among developed countries, virtually Japanese firms alone increased M&As, which rose by 59.8% to US$65.2 billion. Japan has a large number of firms with relatively sound financial constitutions, and M&As targeting U.S. firms increased in particular.

■ **China continues aggressive acquisitions, while SWFs adopt a cautious investment posture**

Amid a decreasing trend worldwide, M&As in East Asia rose markedly, by 69.1% to US$107.1 billion from the perspective of acquired firms and by 79.9% to US$137.1 billion

from the perspective of acquiring firms. Among these, acquisitions by Chinese firms grew by more than fourfold, to US$77 billion. As shown by examples such as Chinalco's investment in Rio Tinto of the U.K. (US$14.3 billion), the Commercial Bank of China's investment in Standard Bank of South Africa (US$5.6 billion), and China Huaneng Group's acquisition of a Singapore power company, Tuas Power (US$3.1 billion), Chinese firms taking part in aggressive overseas M&As stood out. In 2009 as well, Chinese firms are showing signs of aggressive acquisition activity, in resources and manufacturing industries such as motor vehicles.

Sovereign wealth funds (SWFs) and state-owned enterprises, such as national resource firms, which had been increasing their presence in M&A markets over the past few years, maintained aggressive investment stances through the first half of 2008. In fact, such firms showed that they had the funding capacity to cover the substantial losses sustained by European and U.S. financial institutions as a result of the subprime mortgage problem. For example, the Government of Singapore Investment Corp. (GIC) invested US$9.8 billion in a major Swiss financial institution, UBS, and the Abu Dhabi Investment Authority invested US$7.5 billion in Citigroup of the U.S. (Table I - 17).

== Table I-17 ==

However, beginning in the second half of the year, the financial crisis caused worldwide falls in stock prices and Middle Eastern SWFs in particular, funded by oil money, saw investment assets decrease, leading to restraint in new equity investment. Although some large-scale deals were completed since the fall, including the Qatar Investment Authority's acquisition of Cegelec of France (US$3.0 billion) and the establishment in 2009 of a joint venture (US$3.6 billion) between the Advanced Technology Investment Company (ATIC) of Abu Dhabi and a U.S. semiconductor firm, Advanced Micro Devices (AMD), overall investment activity involving SWFs and state-owned enterprises was generally stagnant. While in the first half of 2008, SWFs took part in US$54.2 billion worth of M&As, this figure fell to US$22.4 billion in the second half, and it was just US$8.3 billion in the first half of 2009 (Figure I - 29). There were moves toward reorganization of assets among SWFs as well, such as the sale of an energy company, PowerSeraya, owned by Temasek Holdings of Singapore, to a subsidiary of a Malaysian power firm, YTL Power (US$2.4 billion).

== Figure I-29 ==

According to the Council on Foreign Relations (CFR) in the U.S., as of December 2008 the SWFs of oil-producer nations (Middle East and Norway) recorded a yoy loss of 30-40% of total assets. In particular, since the asset portfolio of the Abu Dhabi Investment Authority had given heavy weight to equity investments, it suffered massive losses of US$183.0 billion. The size of the assets of the Abu Dhabi Investment Authority is estimated to have shrunk to US$328.0 billion. This means that it has conceded first place in the world in terms of SWF size to the Saudi Arabian Monetary Agency (estimated at US$501.0 billion), which invests primarily in bonds.

At present, the SWFs of oil-producer nations are showing a cautious approach to investment. However, it is conceivable that they could become more aggressive in large-scale equity investments if crude-oil prices increase again in the future. The CFR identifies a crude-oil price of US$75/barrel or higher as the rough level at which the SWFs of oil-producer nations would shift to more aggressive investment. In addition, non-oil-money

SWFs are showing signs of resumption of aggressive investment activity as global stock prices have been in a recovering trend, as witnessed in a Chinese SWF, China Investment Corporation (CIC), announcing in July 2009 of its plan to invest in a major Canadian resources firm, Teck Resources (US$1.5 billion).

In November 2008, the IMF announced the Santiago Principles, 24 codes of conduct for SWFs. These principles cover matters such as advancing information disclosure by SWFs and ensuring that their investments should be made for economic purposes and should not exercise political influence. Prior to the announcement, the Abu Dhabi Investment Authority announced its full support for these principles. It is surmised that while the value of their investment assets itself has fallen substantially, SWFs with trillions of dollars in funding in total will demonstrate their presence as part of the limited number of funding sources in developing nations in M&A markets. In addition, private-sector investment is slow in recovering at present, there is a possibility that government-funded companies from countries such as China and Russia could once again make outstanding moves as investors.

■ **The impact of industrial reorganization continues**

Although it decreased in 2008, the world total value of M&As has exceeded US$1 trillion for three consecutive years since 2006 (when it totaled US$1.013 trillion). Not just Japanese and Chinese firms, whose activities have stood out, but also European and U.S. firms have actively been implementing M&As between operating companies as initiatives to ensure survival amid international competition.

A look at trends by industry shows a marked move toward reorganization in the food and tobacco industries. In addition to the deal between InBev and Anheuser-Busch, which had the largest value in 2008, Imperial Tobacco of the U.K. purchased a major Spanish tobacco company, Altadis (US$21.5 billion), and a partnership of Dutch brewers, Heineken and Carlsberg, bought a major British brewer, Scottish & Newcastle (US$18.6 billion). In this way, three of the top five deals in terms of value resulted from moves toward reorganization in the food and tobacco industries. While the sale of Anheuser-Busch attracted considerable attention regarding whether the deal would be approved, out of antitrust considerations, in the end it was approved conditionally by the U.S. Department of Justice.

Among major industries, in addition to food and tobacco, the only other industries in which the value of M&A activities surpassed its level of the previous year were mining and computers and software services.

In fields such as chemicals, electric power, and pharmaceuticals as well, while the value of M&A activities was less than that in the previous year, large-scale acquisitions involving industrial reorganization stood out. In the chemical industry, large firms made aggressive acquisitions to enhance their overseas businesses. Examples included the purchase of a leading British chemical firm, Imperial Chemical Industries (ICI; US$18.3 billion) by a Dutch firm, Akzo Nobel, and the purchase by a German cosmetics and chemicals giant, Henkel, of a U.S. subsidiary of Akzo Nobel (formerly ICI; US$5.5 billion).

In the electric power industry, European power markets were, in principle, liberalized in July 2007 under an EU Directive revised in 2003, and industrial reorganization within the region intensified around that time. In addition to the acquisition by a leading German power firm, E.ON of an Italian subsidiary of a leading Spanish power firm, Endesa (US$14.3 billion), Électricité de France (EDF) purchased British Energy of the U.K. (US$15.4 billion) in 2009.

In pharmaceuticals, acquisitions targeting the U.S. pharmaceuticals market stood out in 2008. These included Novartis's purchase of Alcon of the U.S., the purchase by Teva of Israel of Barr Pharmaceuticals of the U.S. (US$8.8 billion), and the purchase by Takeda Pharmaceutical Co. of Millennium Pharmaceuticals of the U.S. (US$8.1 billion). This trend

has continued in 2009, with a Swiss pharmaceuticals giant, Roche, making a U.S. biotech firm, Genentech, a wholly owned subsidiary (US$46.7 billion). As shown by this example, in the pharmaceuticals industry where new drug development is costly, the number of firms attempting to grow through the acquisition of U.S. biotech firms with excellent R&D expertise, is increasing.

The global economic downturn and fluctuations in resource prices have given another impact on industrial reorganization. In November 2008, BHP Billiton abandoned its effort to purchase Rio Tinto, claiming that prospects no longer were clear for the initially expected benefits of a merger, in light of decreased world demand for iron ore and falling resource prices. However, in June 2009, when resource prices had again begun to rise, the two companies announced a merger of their iron-ore businesses (US$58.0 billion). Moves among companies in the same industry toward goals such as growth in scale and reduction in costs are likely to continue from this point onward, not only in the resources industry but also in others.

■ **China implements measures to prevent M&As under the Antimonopoly Law**

Realization of large-scale cross-border M&As involving industrial reorganization, such as BHP Billiton's plans to purchase Rio Tinto and InBev's acquisition of Anheuser-Busch, could result in major changes in market shares in the respective industries. For M&As that could negatively impact competition in the markets, antitrust authorities around the world are intervening by examining proposed deals regardless of the locations of companies involved, and in some cases, issuing injunctions to resolve pertaining problems or prohibiting the M&As from taking place. Since the approval of the relevant authorities is a necessary precondition of any M&A for the companies involved, thorough preparations are essential.

In the U.S. and the EU, authorities have a wealth of experience and precedent to draw on in examining proposed M&As. From the perspective of companies proposing M&As, it is true that business practices to be carried out for examinations by U.S. or European authorities, such as submittal of applications, are a certain burden, but it has become predictable to some extent how to handle them. By contrast, caution is required concerning handling of M&A examinations by authorities in China, where the Antimonopoly Law took effect just recently in 2008.

On March 18, 2009, the Antimonopoly Bureau of the Chinese Ministry of Commerce decided to block Coca-Cola's planned acquisition of Huiyuan Fruit Juice. This was the first case in which the Antimonopoly Bureau had blocked an M&A under the Antimonopoly Law.

Advance examination of M&As is prescribed under Chapter 4 of the Chinese Antimonopoly Law. Applications are covered under the State Council regulations on application for tie-ups between companies. In January 2009, opinions were issued on guidance for application for tie-ups between companies and for documentation of application for tie-ups between companies. According to some experts, these opinions on guidance require involving companies to submit information more broad-ranging and in greater detail in some ways than that required for examination in Europe and the U.S.

In April 2009, Mitsubishi Rayon's acquisition of Lucite of the U.K. was awarded conditional approval by the Chinese Antimonopoly Bureau. In addition to the separation of 50% of Lucite's Chinese subsidiary's production capacity and sale of this portion in whole to a third party, these strict conditions extended to limits on future business growth, such as prohibition of acquisition of any other company in the same industry in China as well as of opening new plants for five years after the acquisition. They incorporate strong elements of industrial policy, intended to protect Chinese firms. This was the second case of such conditional approval, following on the case in which InBev's ownership of Chinese brewery stock was restricted on the company's acquisition of Anheuser-Busch.

In each of these cases — InBev, Coca-Cola, and Mitsubishi Rayon — sufficient grounds for the decisions made are lacking, and at present the authorities' examination methods appear unpredictable from the perspective of applying businesses. Procedures are likely to be established through the implementation of each detailed rule and the accumulation of precedents from this point onward.

■ **Contracting trend continues in the first half of 2009**

In 2009, the contracting trend in global M&A markets has accelerated. The value of M&A activities worldwide in the first half of 2009 fell by 64.5% yoy to US$225.2 billion, the lowest level since the first half of 2004. The number of M&A transactions in the second quarter (1,109 deals completed) was the lowest since the second quarter of 2003. With fund-raising remaining difficult, the number of large-scale M&As in particular has decreased dramatically. While the first half of 2008 saw 131 large-scale M&As valued at more than US$1 billion, the first half of 2009 saw only 34 such cases. Large-scale deals in the first half of the year included the acquisition by BNP Paribas of France of more than one-half of the stock of a financial institution, Fortis (US$12.8 billion), which had been nationalized temporarily by the government of Belgium, in addition to Roche's making Genentech its subsidiary.

In 2009 too, it remains difficult to raise M&A funding. The number of leveraged buyouts (LBOs, buyouts in which the target company's assets are used as security for raising funds), a commonly used method of raising funds for large-scale M&As through 2007, decreased rapidly beginning in 2008. Out of 304 large-scale deals valued at US$1 billion or more, 53 deals employed LBO schemes in 2007. Corresponding figures were 16 out of 241 in 2008 and zero out of 34 so far in 2009. At the same time, stock-swap schemes (including those involving partly cash payment), which accounted for a share of 47.0% of all M&As during the M&A boom of 2000, fell to a 6.3% share in 2008 and a 7.7% share in the first half of 2009. As such, it is difficult to say that such schemes are in wide use today.

Judging from current trends, it would appear certain that full-year figures for 2009 will show a major decrease as well. However, while M&As are contracting over the short run, the trend toward industrial reorganization continues as described above, and it is thought that corporate expansion in connection with such reorganization will advance further over the medium to long term.

4. Japan's Trade and Direct Investment

(1) Trade in Japan

■ Trade surplus contracts considerably in 2008

In 2008, Japan's exports (customs-clearance basis) grew by 8.9% yoy to US$775.9 billion, while imports grew 21.7% to US$756.1 billion (Table I - 18). Although the value of exports on a full-year basis increased for the seventh consecutive year, it fell by 11.9% yoy in the fourth quarter, reflecting the global economic slowdown. This was the first quarter of negative growth in exports since the first quarter of 2002. On a monthly basis, exports fell by 23.3% in December in particular. The pace of the decline accelerated further in 2009, with first-quarter exports dropping 38.7% yoy to US$120.9 billion. In 2008, imports grew by more than 20% for the first time in eight years, backed by high resource prices through the first half of the year. This was the sixth consecutive year in which imports set a new record. However, in the first quarter of 2009, imports fell massively, dropping 26.9% to US$130.5 billion, as a result of falling resource prices and worsening of domestic demand. Growth in the export volume index (base year: 2005) was -1.6% in 2008, the first negative growth in seven years. The import volume index fell too, dropping for the second consecutive year with a growth rate of -0.6 percent.

== Table I-18 ==

Japan's total trade value (total value of exports and imports) rose 14.9% yoy to US$1.532 trillion in 2008. The trade surplus fell by US$71.8 billion (78.4%) yoy to US$19.8 billion, due primarily to a slowdown in exports and massive growth in imports. This was the greatest drop in terms of value since Japan achieved a surplus in its balance of trade in 1981. On a fiscal-year basis, the balance of trade for FY 2008 was negative (by US$8.5 billion) for the first time in 28 years. While growth in exports gradually slowed through the third quarter of 2008, growth in imports continued to rise, shrinking the surplus as a result. In the fourth quarter, although imports slowed rapidly, exports continued to fall at an even faster pace, and as a result, Japan recorded a trade deficit over three consecutive quarters through the first quarter of 2009. This is the first time the nation experienced two or more consecutive quarters of trade deficit since the period from the first quarter of 1979 through the third quarter of 1980, when it experienced seven consecutive quarters of trade deficit as a result of the second oil crisis. The pace of export declines is slowing after hitting bottom in March 2009, and as of May 2009, exports were slightly in the black.

The surplus in the current account balance, which represents the state of all transactions including trade in goods and services, dividends, and interest, contracted for the first time in three years, due primarily to the decrease in the trade surplus. The current account surplus in 2008 fell by US$53.3 billion (25.3%) yoy to US$157.2 billion, also falling as a percentage of GDP, from 4.8% in 2007 to 3.2 % (Table I - 19). While the current account balance fell into a deficit in January 2009 for the first time in 13 years, it was back into surplus in February and has remained in the black since then.

== Table I-19 ==

While the trade surplus decreased rapidly, the services account deficit narrowed by US$400 million yoy to US$20.8 billion. Although the transportation account deficit increased by US$100 million yoy to US$7.1 billion, the size of the increase was smaller than the US$1.8 billion increase in 2007. The travel account deficit contracted from US$17.2 billion

in 2007 to US$17.1 billion. According to the Japan National Tourism Organization (JNTO), while the number of foreigners visiting Japan in 2008 remained virtually unchanged, growing by only 0.1%, the number of Japanese travelling overseas decreased for the second consecutive year, by 7.6%. This decrease was attributed to factors such as a perception that overseas travel was more expensive due to the low value of the yen through the first half of the year and increases in fuel surcharges. The other-services account showed a surplus for the fourth consecutive year, rising by US$400 million yoy to US$3.4 billion. Included in this figure is an increase (by US$800 million yoy to US$7.4 billion) in royalties on patents etc., the sixth consecutive year of such an increase. While automotive royalties received decreased in connection with declining overseas production, royalties paid in connection with electrical machinery also decreased, resulting in a positive balance. At the same time, the insurance deficit widened (by US$1.4 billion to US$4.2 billion), as payments of reinsurance premiums to overseas insurers continued. The services account deficit has been contracting since the late 1990s. Nevertheless, due to the structure of Japan's international balance of payments, Japan is somewhat destined to suffer services account deficit, and thus receipts of services fees are desired to increase from this point onward.

The surplus in the balance on income (interest, dividends, etc. from overseas investment) grew for the sixth consecutive year, reaching a record high of US$152.5 billion. On an international balance of payments basis, since the trade surplus fell by US$66.1 billion (63.1%) to US$38.6 billion, the surplus in the balance on income has surpassed the trade surplus for four consecutive years.

■ **Diverging export trends between developed and emerging countries, but across-the-board declines after the fourth quarter**

Viewing the exports in 2008(on a customs-clearance basis) by country and region (Table I - 20) , while exports to Europe and the U.S., whose economies were in downturns, fell, those to emerging countries remained relatively strong through the third quarter. However, in the fourth quarter, exports fell virtually on a global basis (Figure I - 30).

== Figure I-20 ==

== Figure I-30 ==

Exports to the U.S., the epicenter of the financial crisis, decreased uniformly beginning in August 2008, falling by 5.0% for the full year to US$136.2 billion, and have continued to fall in 2009, dropping by roughly one-half yoy. While exports to the U.S. were in a decreasing trend for most products even in 2007, the pace of the decrease accelerated in 2008, centering on transport equipment (down 9.3%).

Although exports to the 27 EU nations (referred to collectively as "EU" hereinafter) maintained positive growth, the rate of growth slowed considerably due to the economic slowdown from 11.8% in 2007 to 3.9%, totaling US$109.4 billion. Exports of transport equipment, which account for one-fourth of exports to the EU, decreased for the first time in three years. Meanwhile, exports of chemicals (up 6.7% to US$11.3 billion) and precision instruments (up 12.8% to US$6.8 billion), among other products, remained strong.

While exports to Europe and the U.S. were not thriving, those to emerging countries were relatively stable. Exports to China, which is becoming Japan's largest export destination, recorded double-digit growth for the third consecutive year, rising 13.7% to US$124.0 billion. The presence of China as an export destination is growing, as exports to China surpassed those to the U.S. for the first time from July through August 2008. This growth was driven by general machinery (rising 15.4% to US$23.4 billion), which accounts for about 20% of total

exports to China, and steel (up 25.5% to US$11.1 billion), accounting for roughly 10%. Nevertheless, the brisk exports to China were also affected by the collapse of Lehman Brothers in September, and they fell yoy beginning in November. China imports components, raw materials, etc. from Japan and exports finished products to Europe and the U.S. It appears that decreasing consumption in the final markets of Europe and the U.S. has slowed Chinese production, in turn decreasing Japanese exports to China. In fact, the rate of growth in Chinese exports to the U.S. slowed in 2008 to the single-digit range for the first time in seven years, and those to the EU grew by less than 20% for the first time in six years. Furthermore, in connection with a slowdown in Chinese domestic demand, exports of products such as automobiles and electrical equipment from Japan to China, which until then had been growing strongly by double digits, slowed rapidly in the fourth quarter.

Aside from China, exports to ASEAN markets increased by 18.2%, faster growth than in 2007 (13.9% growth). Contributors to this growth were: general machinery (up 18.2% to US$21.0 billion), transport equipment (up 28.3% to US$12.3 billion), and steel (up 40.7% to US$12.8 billion). Exports to resource-rich countries and regions, such as the Middle East (up 28.8% to US$33.7 billion), Russia (up 52.5% to US$16.4 billion), and Brazil (up 47.4% to US$5.9 billion) were strong as well. However, following the decline in exports to Europe and the U.S., exports to these countries and regions began to decrease in the fourth quarter.

■ **Value of imports pushed up by rising fuel prices**

Imports trend by country and region shows that while imports from Europe and the U.S. increased at roughly the same pace as in 2007, imports from resource-rich countries and regions increased rapidly due to the appreciation in fuel prices throughout the year. On the other hand, imports from many regions showed negative growth in volume terms.

Imports from China, Japan's largest supplier, grew by double digits for the first time in three years, rising by 11.5% to US$142.3 billion. The key product categories, such as electrical equipment (up 14.7% to US$29.3 billion) and general machinery (up 13.6% to US$24.1 billion), pushed up the value of imports. On the other hand, food imports from China decreased as they did in 2007, by 11.9%, due to factors such as concerns about the safety of Chinese food products and strengthening of inspections by Chinese quarantine authorities. On a volume basis, imports from China fell by 1.1%, a first decline in 10 years.

Imports from the U.S. rose by 8.7% to US$77.0 billion. While the growth was faster than in 2007 (4.1% growth), volume-based imports from the U.S. decreased for the first time in five years, falling by 5.6%. Imports from the EU also increased on a value basis, rising by 7.6% to US$69.9 billion and securing virtually the same growth pace recorded in 2007 (8.2% growth). However, they decreased on a volume basis for the third consecutive year, dropping by 4.1 percent.

Growth was marked in imports from resource-producing countries and regions, with imports from the Middle East in particular, which account for more than 20% of imports in terms of value, growing by 45.4% to US$165.4 billion. The yoy rate of growth in these imports reached as high as 81.8% in the third quarter. Imports from other resource-rich countries and regions also grew on a full-year basis, with those from Australia rising by 51.7% to US$47.3 billion, those from Russia rising by 25.8% to US$13.3 billion, and those from Brazil rising by 51.6% to US$9.1 billion. However, beginning in the fourth quarter, imports from most regions declined. Imports from the Middle East, which seemed to have been mostly affected by rising prices, decreased by 52.8% in the first quarter of 2009, suffering a sharper drop than other regions.

■ **Sluggish growth in exports, centered on machinery**

Most of the products showed sluggish growth in 2008(Table I - 21). Together with global

contraction of demand, the yen's appreciation is considered to have kept down growth in export volume. In 2008, the yen/dollar exchange rate rose by 13.9% yoy to 103.4 yen/dollar. This was the fastest growth in the value of the yen since it rose by 14.9% in 1999.

== Table I-21 ==

Exports of general machinery, which account for about 20% of total exports, increased by 8.8% to US$151.5 billion. Exports to the U.S., the largest market for exports, decreased for the second consecutive year, falling by 1.5% to US$28.5 billion. Exports to the EU increased only slightly, by 2.0% to US$28.0 billion. On the other hand, among main product categories, exports of mining and construction machinery showed steady growth of 14.8% to US$13.1 billion, helped by strong exports to emerging countries such as ASEAN (up 47.6%), Russia (up 30.7%), and the United Arab Emirates (up 88.9%).

Exports of electrical equipment grew slightly by 2.7% to US$138.7 billion, with the rate of growth in exports to China, the largest market for exports of these products, slowing considerably from 19.8% in 2007 to 6.0%. Exports of integrated circuits (HS No. 8542), which account for the largest share in value terms, decreased for the first time in three years, falling by 0.7% to US$8.1 billion. Exports of electrical equipment to major regions were sluggish, as exemplified by the fourth consecutive year of decrease in exports to the U.S.

Growth in exports of transport equipment, a specialty of Japan, also slowed for the second consecutive year (rising 14.2% in 2006, and 13.0% in 2007), growing by 9.4% to US$196.0 billion. Exports to the U.S., the largest market, fell by 9.3% to US$54.1 billion. The number of motor vehicles exported also shows a marked decrease in exports to the U.S. (Table I - 22). Exports to the EU also fell on a value basis, dropping for the first time in three years, by 0.8% to US$27.4 billion. While exports to China (up 30.9%) and ASEAN (up 28.3%) showed strong growth, backed by booming demand, they were not enough to offset the decline in shipments to Europe and the U.S., resulting in a sluggish performance for the sector overall. Exports to Russia, the second-largest market, increased by 54.9% to US$12.8 billion. However, the country raised vehicle taxes in January 2009, and this could impact future exports of transport equipment to that country.

== Table I-22 ==

In addition, growth in steel exports (up 25.7% to US$53.0 billion) to China (up 25.5%) and ASEAN(up 40.7%) stands out. While exports of other products decreased in the fourth quarter, steel exports maintained double-digit growth throughout 2008. According to the Japan Iron and Steel Federation, full-year 2008 steel export volume rose by 4.6% to a record high of 38.54 million tons.

Imports of mineral fuels rose by 54.4% to US$265.7 billion, accounting for more than 30% of total (Table I - 23). In line with this, share of manufactured goods imports fell by 6.2 percentage points to 50.1% to the same level as 1992. Commodities such as crude oil (up 48.3% to US$154.4 billion), liquefied natural gas (up 68.8% to US$45.2 billion), and coal (up 97.9% to US$29.3 billion), whose market prices soared from the start of the year through the summer, saw considerable increases.

== Table I-23 ==

Trends in crude oil imports show that while there was no major change in imports in terms

of volume, prices rose by 46.8% over the course of the entire year, breaking through the US$100/barrel barrier for the first time to rise to US$101.90/barrel. Import growth in 2008 was driven by rising fuel prices (Figure I - 31). However, after peaking at a high of US$135.20/barrel in August, the imported price of crude oil fell rapidly in the fourth quarter. In tandem with this decrease in prices, imports have continued to decrease in terms of value. If import volume remains unchanged, the decline in import prices will naturally erode import value to the extent of the decline.

== Figure I-31 ==

While imports of general machinery (up 6.2% to US$59.1 billion) and electrical equipment (up 5.5% to US$77.7 billion) saw relatively steady growth, automobile imports decreased by 8.4% dented by sluggish sales. Steel imports rose by 26.1% to a record high of US$17.6 billion, due to growth in imports from China (up 32.6% to US$5.9 billion) and South Korea (up 15.3% to US$3.8 billion).

■ **Exports of major IT products decrease**

IT trade in 2008 was largely unchanged from the previous year, with exports leveling off at US$143.0 billion and imports rising by 3.1% to US$90.3 billion (Table I - 24). The IT trade surplus shrunk by US$2.7 billion from US$55.3 billion in 2007 to US$52.6 billion.

== Table I-24 ==

The reasons behind the sluggish growth of IT exports were: electronic components such as semiconductors, including integrated circuits, accounting for about 30% of total IT exports, leveling off (at US$44.5 billion); and mainstream products, such as other electrical and electronic components (down 0.8% to US$34.6 billion) and video equipment (up 2.5% to US$16.2 billion), either decreasing slightly or remaining virtually flat. Volume-based semiconductor sales worldwide have been stagnating since peaking in the fourth quarter of 2007, and growth in sales has slowed rapidly since the third quarter of 2008 (Figure I - 32). The growth rate in Japanese exports also fell rapidly in the fourth quarter. Exports of television receivers, such as LCD TVs, declined massively by 19.7 %. While price decreases appear to be a major cause of this drop, the fact that the Beijing Olympics and year-end sales campaign did not boost TV sales as much as expected is considered to be another cause.

== Figure I-32 ==

IT exports by country and region shows that the U.S. market put significant downward pressure on exports as a whole, with exports to that market dropping by 6.1% to US$22.1 billion. Exports to China (up 4.6% to US$27.9 billion), the largest export market, also showed decreases for many products, centered on electronic components such as semiconductors (down 0.9% to US$10.0 billion). At the same time, while their shares were small, exports to Eastern European markets such as the Czech Republic (up 21.1% to US$1.3 billion) and Hungary (up 25.8% to US$1.1 billion) recorded high growth.

Regarding IT imports, imports of components increased by 0.7% to US$46.8 billion and those of finished products rose 5.7% to US$43.6 billion. Imports were strong for complex digital equipment, computers, such as laptop computers, and peripheral equipment (up 9.8% to US$14.1 billion), and communications equipment (up 15.0% to US$10.8 billion).

IT imports from China, which account for roughly 40% of IT imports, grew at a rate greatly exceeding that for IT imports as a whole, with imports of components rising by 9.4% to US$13.4 billion and those of finished products rising by 15.9% to US$21.4 billion. While many products entered a decreasing trend in the fourth quarter, for the year as a whole, all products other than computer components, digital cameras, and audio equipment recorded double-digit growth. Imports from ASEAN, which account for the second largest share of IT imports, rose just slightly, by 3.4% to US$16.1 billion, due to a 0.7% decrease in imports of components.

■ **Dependence on specific products was a factor behind worsening of trade balance**

Japan's most recent trade deficit was recorded in 1980, following the second oil shock (Figure I - 33). At that time, the rapidly rising value of imports due to rising crude-oil prices was the main cause of the deficit. The prices later fell, and Japan has experienced continuing trade surpluses in and after 1981. While at times the surplus shrunk temporarily, there had been no drop in trade surplus as sharp as that posted in 2008.

== Figure I-33 ==

The massive contraction in the surplus in 2008 was caused not just by a major increase in imports due to rising prices but also by sluggish exports. While Japanese imports are focused on necessities such as mineral fuels and foods, a large share of its exports is made up of durable consumer goods, for which demand tends to be affected easily by economic conditions.

The structure of exports in 2008 shows that machinery accounts for approximately 70% of Japan's exports (with transport equipment alone accounting for a quarter of the total). In Germany, the largest exporter of machinery, and China, the second-largest, machinery account for only about one-half of their exports. Thus, in comparison with those of other leading exporters, Japanese exports can be said to be particularly dependent on machinery. (See Reference Materials/Supplement Statistics: Annotation 4 at the end of this White Paper for a breakdown of exports from the countries and regions of the world by product category.) From November 2008, exports of transport equipment, general machinery, and electrical equipment fell, massively pushing down exports as a whole (Fig. I - 34). Since the proportion of domestically procured components is particularly high in Japan[7], a slowdown in demand for finished products can easily and immediately affect the components sector. Against this background, the export structure focused on specific products can be considered to have been hit hard by the financial crisis, resulting in the drop in the trade balance to the level recorded after the oil shock.

Statistics in 2009 show that monthly exports of transport equipment have continued dropping by roughly one-half yoy, and were down by 46.7% in May, indicating that any recovery is a slow one. Exports of steel, which were strong throughout 2008, also continued to decline increasingly rapidly (falling by 40.7% in May), as demand for steel materials from leading export markets such as South Korea dulled. As such, it appears to take some time before steel exports begin picking up.

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[7] According to the 2009 Monozukuri White Paper (ie. White Paper on manufacturing activities), the percentages of parts and materials procured domestically in Japan were 80.3% in the electrical equipment field, 94.5% in the transport equipment field, and 92.4% in the general machinery field, much higher than the rates of roughly 60% in each of these fields in the U.S.

On the other hand, exports of electrical equipment and those of general machinery and precision instruments appeared to have bottomed out in February and March, respectively. While the increase pace slowed in May compared to April, due to less business days than in usual years, the recovery trend has virtually been maintained. Exports of electrical equipment to China have particularly been robust, rising by roughly 10% month-on-month beginning in February. In addition, exports of chemicals decreased by 26.1% in May, while total exports dropped by 37.1%, indicating that this product is recovering relatively quickly. Within this category, pharmaceuticals recovered to positive growth of 17.6% yoy in March and continued double-digit growth in subsequent months, while exports of other products continued to show negative growth.

(2) Japan's Outward FDI Shows Considerable Growth

In 2008, Japan's outward FDI (based on balance of payments; net flows) totaled US$130.8 billion (up 78.0% yoy), significantly higher than the previous all-time high of US$73.5 billion recorded in 2007. This is attributed to: (i) aggressive outward M&A activity by Japanese companies, assisted by the high value of the yen and a global downward trend in stock prices; (ii) increased investments related to capital increases at financial institutions; and, (iii) strong investment intended to secure interests in natural resources. Valued in yen, the nation's outward FDI grew by 52.8% yoy for 2008 as a whole, indicating that the impact of the weaker dollar pushed up the rate of growth in the outward flow of FDI by more than 20 percentage points.

A look at quarterly figures shows that outward FDI in the fourth quarter totaled US$62.5 billion, accounting for 47.8% of the full-year total. In the fourth quarter, net outflows to the U.S. totaled US$27.0 billion, a sign of high levels of investment in equity capital in U.S. financial institutions suffering losses due to the financial crisis, and lending of funds from parent companies to their subsidiaries in the U.S.

A look at figures by type of FDI shows that outflows of equity capital (gross) totaled US$112.3 billion due to an increase in M&A activity, surpassing the US$100 billion level for the first time ever. Similarly, outward M&As by Japanese companies in 2008 set a new record high at US$65.2 billion, up 59.8% yoy, driving the growth in outward FDI. Reinvested earnings also set a record high for the full year at US$24.1 billion, reflecting strong profits at overseas subsidiaries through the previous fiscal year.

■ **FDI directed at the Americas increases considerably**

A look at targets of FDI by leading country and region shows that FDI directed at North America surged by 164.9% to US$46.0 billion and FDI directed at Central and South America soared by 212.4% to US$29.6 billion, contributing greatly to the overall growth in FDI (Figure I - 35).

== Figure I-35 ==

Including a large number of large-scale M&As by Japanese firms, FDI targeted at the U.S. rose rapidly by 185.1% to US$44.7 billion. In the U.S., the finance and insurance industries accounted for a large share of such FDI, skyrocketing 7-fold yoy to US$20.3 billion. In addition to the investment by Mitsubishi UFJ Financial Group in Morgan Stanley of the U.S. (US$7.8 billion), whose capital adequacy ratio reduced hit by the financial crisis, large-scale acquisitions of insurance companies took place. In the pharmaceuticals industry, FDI in the category of chemicals and pharmaceuticals, which saw a succession of M&As, rose by 163.5% to US$5.1 billion. Examples of M&A in the category of electrical equipment and

devices included Ricoh's acquisition of IKON Office Solutions (US$2.4 billion)[8].

In Central and South America, FDI targeted at Brazil rose rapidly by 331.7% to US$5.4 billion. The value of such FDI was pushed upward by the major investment (totaling US$3.1 billion) in Namisa, a resources company owning iron-ore deposits by a consortium of major Japanese and South Korean steelmakers and trading companies. In addition, a large number of capital transactions targeted chiefly at the Cayman Islands (a British overseas territory), intended to strengthen the capital of financial institutions, took place. According to the Bank of Japan, these transactions include a large number of cases in which Japanese securities firms and other companies underwrote preferred shares issued by special-purposes enterprises (SPEs) of Japanese financial institutions located in the Caymans Islands and elsewhere.

In Asia, FDI targeted at countries such as India, China, South Korea, and Vietnam increased by 20.4% to US$23.3 billion. FDI directed at India significantly increased by 268.6% to a record high of US$5.6 billion. The acquisition by Daiichi Sankyo of the largest Indian pharmaceuticals firm, Ranbaxy Laboratories (totaling US$5.0 billion) made a major contribution to this rise. FDI in transport equipment and devices also increased by 31.9% to US$600 million, thanks to automobile-related capital investment. FDI targeted at China increased by 4.5% to US$6.5 billion, as capital investment in manufacturing sectors, such as general machinery and devices and transport equipment and devices, as well as solidreinvested earnings. FDI targeted at South Korea rose massively by 82.0% to US$2.4 billion. In addition to notable investment in the finance and insurance industries, investment in manufacturing increased as well. A typical example of this was an increase in LCD panel-related capital investment by Asahi Glass. FDI directed at Vietnam roughly doubled to US$1.1 billion thanks to booming capital investment in machinery fields as well as growth in non-manufacturing fields, in which FDI had been small in the past, as witnessed in the investment of more than US$200 million by Sumitomo Mitsui Banking Corp. in Vietnam Eximbank. In Asia, a trend in recent years has been toward growth in investment in distribution fields, particularly the retail sector.

FDI in Western Europe increased by 9.6% to US$22.4 billion. The increases were marked in countries such as Germany, France, and the U.K. FDI in Germany was particularly robust, rising by 343.9% to US$3.9 billion. This appears to have been impacted by investments such as TDK's making a German electronic components manufacturer, EPCOS, its subsidiary (US$600 million), as FDI in the electrical equipment and devices field grew rapidly to US$1.4 billion. FDI targeted at France grew by 255.2% to US$1.7 billion, with the capital participation by Otsuka Pharmaceutical in a major French beverage firm, Alma (US$1.2 billion), contributing. FDI targeted at the U.K. rose by 122.8% to US$6.7 billion, making the U.K. the second largest recipient of FDI after the U.S. FDI in the finance and insurance industries accounted for US$5.1 billion of this figure, as financial institutions appeared to enhance the capital of their U.K. subsidiaries in the fourth quarter in particular.

FDI in Oceania increased by 44.2% yoy to US$6.1 billion. Active investment in Australia was conducted by companies such as trading companies and petroleum development firms to secure interests in mining and fuel resources. A large amount of investment took place in the food-products field as well.

FDI targeted at the Middle East grew by 18.8% to US$1.1 billion, maintaining the high

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[8] In not a few cases, M&As are conducted through overseas subsidiaries. In many such cases, funds are raised locally, for example by using the subsidiaries' internal reserves and loans from local financial institutions. For this reason, it must be noted that there are some M&A deals that do not involve transfer of capital between residents and nonresidents, which corresponds to FDI on an international balance of payments basis.

level from the previous year. This included participation by trading companies in energy-plant projects in Saudi Arabia.

■ **The fields of finance and insurance, chemicals and pharmaceuticals, and mining were drivers of FDI**

A look at FDI figures by industry shows that FDI in nonmanufacturing industries grew massively by 151.8% to US$85.5 billion, accounting for two-thirds of the total. With a succession of investments in U.S. financial institutions and insurers, finance and insurance-related FDI alone recorded an increase of 168.5% to US$52.2 billion. In finance, in addition to its investment in Morgan Stanley, Mitsubishi UFJ Financial Group also acquired UnionBanCal of the U.S. (US$3.7 billion). In insurance, Tokio Marine Holdings acquired U.S. nonlife insurer, Philadelphia Consolidated (US$4.7 billion).

FDI in mining also increased by 159.5% to US$10.5 billion. In addition to the capital participation in Namisa of Brazil, other marked examples of investments by trading companies and steelmakers to secure resource interests included investment by Mitsubishi Corp. and others in an Australian coal-mining project (US$2.4 billion) and Marubeni's investment in a copper-mining firm in Chile (US$1.3 billion).

FDI in manufacturing industries grew by 14.6% to US$45.3 billion, maintaining the high level from the previous year. As a result of a succession of large-scale M&As in the pharmaceuticals industry, FDI in the chemicals and pharmaceuticals field grew massively by 211.0% to US$11.6 billion. In the pharmaceuticals industry, where domestic markets are facing difficulties in achieving growth, major firms are aggressively expanding overseas sales channels.

■ **Firm establishment of overseas strategies utilizing cross-border M&As**

A look at outward M&As by country shows that those targeted at the U.S. had an overwhelming share, accounting for 59.4% of the total at US$38.7 billion, followed by India (US$5.0 billion) and Australia (US$4.6 billion) (Figure I - 36). Cumulative totals since 2000 show that outward M&As targeted at the U.S. had the largest share, followed by those targeted at the U.K. and Australia, in that order.

== Figure I-36 ==

A look at outward M&As by industry shows that pharmaceuticals had the largest share in 2008, at US$19.6 billion, followed by finance at US$11.9 billion. The largest by value was Takeda Pharmaceutical's acquisition of a pharmaceuticals development venture, Millennium Pharmaceuticals (US$8.1 billion) (Table I - 25). In the pharmaceuticals industry, there was a succession of aggressive expansion into overseas using M&As, including Eisai's acquisition of MGI Pharma of the U.S. (US$3.7 billion), Daiichi Sankyo's acquisition of Ranbaxy Laboratories, and Shionogi's acquisition of ScielePharma of the U.S. (US$1.2 billion). Recent trends show heavy use of M&As in the food-product and mining industries as well.

== Table I-25 ==

While M&As by the major countries of Europe and the U.S. decreased uniformly in 2008, the increase in Japan's outward M&As stood out. Although 2009 figures show yoy decreases, outward M&As in the first half surpassed US$10.0 billion. This probably should be seen as a sign that outward M&As are being established firmly as corporate growth strategies, for

purposes such as expanding overseas markets, securing new technologies, and entering new fields (Table I - 26).

== Table I-26 ==

Outward M&As frequently involve greater risk than those between domestic firms. Acquisitions involve many legal, regulatory, and local taxation matters that should be given attention, such as calculation of an acquisition price that includes an appropriate premium on stock prices (a premium offered by an acquirer over the face value of the acquired company's stock), and M&A examinations by each country. In not a few cases, competition to acquire target firms increases premiums, and accordingly, a success in acquisition could become a heavy burden for the acquirer. Furthermore, a drop in stock prices after acquisition could lead to losses at the acquirer as the market capitalization of the acquired company declines.

On this point, in large-scale outward M&As by Japanese firms since roughly the 1990s, there are not a few cases in which large valuation losses or losses on sale were booked after the acquisitions, such as the purchase by Matsushita Electric (now Panasonic) of MCA of the U.S. (US$7.1 billion, later sold). In response, among large-scale outward M&As in recent years, the number of cases is increasing in which acquisitions have been conducted with more cautious management decision-making. For example, JT's acquisition of Gallagher of the U.K. in 2007 (US$18.8 billion) and NSG's acquisition of Pilkington of the U.K. in 2006 (US$4.0 billion) kept the acquisition premium low in the 20-30% range. A look at the average acquisition premium (vs. stock prices four weeks prior to announcement of the acquisition, not including negative figures) in large-scale Japanese outward M&As (valued at US$100 million or more) shows a decrease from 77.7% in the years 1990-2003 to 44.4% from 2004 through the first half of 2009.

Meanwhile, M&As still involve risk, as witnessed in the fact that Daiichi Sankyo booked 351.3 billion yen in consolidated extraordinary losses in 2008 as a one-time write-off of goodwill (the difference between the acquisition price recorded on the balance sheet and the current value of the net assets of the acquired firm) as a result of a drop in the stock price of its acquired subsidiary, Ranbaxy Laboratories.

Consolidation of management following M&As can be said to be another difficulty of cross-border M&As. The success of an acquisition requires various considerations, such as differences in business practices and culture, corporate governance, and compensation levels and systems, as well as measures to keep superior human resources from leaving.

■ **While returns on FDI fell for the first time in five years, those in China were solid**

Japan's outward FDI stock (assets) in 2008 increased by 25.1% yoy to US$683.9 billion. This balance has increased rapidly, roughly doubling the figure at the end of 2003. However, when valued in yen, the balance decreased in 2008 by 118.5 billion yen yoy, as a result of the sharp appreciation of the yen.

The rate of return on outward FDI, i.e. profits received from FDI (dividends, reinvested earnings, and interest receipts) as a percentage of the balance of outward FDI, was 8.1%, a drop of 1.1 percentage points from the previous year. Looked at by country and region, returns fell in major countries and regions with large outward FDI balances: ASEAN markets, down 1.4 percentage points to 12.3%; the U.S., down 0.4 percentage points to 7.0%; and the EU, down 1.6 percentage points to 5.2 % (Figure I - 37). This could be attributed to running costs due to the rapid rises in prices of crude oil and raw materials beginning in 2007, as well as the worsening economic conditions in the second half of 2008.

== Figure I-37 ==

Amid these conditions, returns from outward FDI targeted at China remained strong at 9.8 %. Profits of firms advancing into China maintained a high level in 2008 as well, and a large amount of these appears to have been booked as reinvested earnings. The Chinese economy is relatively strong, supported by aggressive government fiscal policies and brisk domestic demand. The Chinese market has become an earnings pillar of Japanese firms' overseas investments.

JETRO's FY2008 Survey of Japanese Firms' International Operations (March 2009, with valid responses received from 928 firms, for a response rate of 28.3%) asked about plans for business advancement in China over the coming period of roughly three years. The percentage of respondents in the manufacturing, trading, wholesale, and retail sectors, reporting that they were considering expansion of existing businesses or startup of new businesses was 50.1%, a drop of 12.9 points from the previous year's results. In contrast, the percentage of those reporting plans to maintain the existing scale of business increased by 10.7 points to 33.1%, indicating an increasing number of firms shifting their strategies to maintain current status. Meanwhile, the percentage of those reporting plans to curtail or withdraw business in China remained small at 3.4%, albeit increasing by 1.5 percentage points. These results show that adopting a cautious attitude under tough economic conditions, Japanese firms still maintain positive operating stance, with more than one-half of the respondents planning to expand their businesses in China instead of contracting them.

■ **Reinvested earnings projected to decrease**

One major cause of the increase in outward FDI through 2008 can be said to be the contributions of profits earned by overseas subsidiaries of Japanese firms. Of income from overseas subsidiaries, internal reserves other than dividends, interest income, etc. are booked as reinvested earnings in international balance of payments statistics, and have contributed to growth in outward FDI. While monthly statistics show that reinvested earnings already began to decrease in September 2008, there are a number of factors that cause us to expect that reinvested earnings will continue to decrease in and after 2009.

The first factor is revisions to the taxation system. Under the previous Japanese taxation system, worldwide corporate income should be subject to corporate taxation. In many cases, companies saw an increase in their tax burden, if income from overseas subsidiaries was paid to Japan as dividends. Some pointed out that this had boosted internal reserves overseas. For this reason, the Ministry of Economy, Trade and Industry had considered revisions to the system to encourage return of investment funds to Japan.

As a result, under FY 2009 revisions to the taxation system, a system of exclusion of gains from dividends from overseas subsidiaries was adopted in April 2009. Under this system, 95% of dividends from overseas subsidiaries (in principle, those in which a parent company in Japan has a stake of 25% or more) are not subject to domestic corporate tax or local tax. This revision is likely to affect dividend behavior on the part of overseas subsidiaries to some degree, and lead to a decrease in reinvested earnings accounted for as outward FDI.

The second is the fact that overseas units of Japanese firms, which had maintained strong performance, saw a marked worsening of profits in FY2008, as described in Column I - 1 below.

The third is the fact that, faced with cash-flow problems, many parent companies in Japan made their overseas subsidiaries to transfer their internal reserves to them as dividend payment, in preparation for settlement of accounts in March 2009. The value of receipts from FDI in March reached a monthly record of 978.5 billon yen. This rapid temporary increase in

dividends should also lead to a decrease in future reinvested earnings by decreasing internal reserves.

Reinvested earnings start to be reflected in international balance of payments statistics about six months after the end of the fiscal year. Since the fiscal year of most Japanese firms ends in March, these factors will statically impact reinvested earnings in and after September 2009. On a full-year basis, it appears certain that reinvested earnings will fall in 2009 after peaking in 2008.

■ **Despite the financial crisis, Japanese firms remain motivated to expand overseas**

In 2009, Japan's outward FDI is decreasing. The value of FDI from January through May decreased by 26.7% yoy to US$28.8 billion. In the first half of the year, Japan's outward M&As fell 54.1% yoy to just US$10.5 billion. Major investments taking place since the start of 2009 include NTT DoCoMo's investment in a major Indian telecommunications firm, Tata Teleservices (US$2.6 billion), Mitsubishi Rayon's acquisition of a U.K. chemical firm, Lucite (US$1.6 billion), and Kirin Holdings' investment in a Philippine beverage maker, San Miguel (US$1.2 billion).In the light of the global deceasing trend, Japanese outward FDI and M&A activity cannot be said to be bearish, although it has somewhat lost steam compared to the past two years, in both of which Japan's outward FDI recorded an all-time high.

What is the direction of Japanese firms' overseas businesses under these circumstances? The survey mentioned above was conducted in November and December 2008, when the impact of the financial crisis was spreading. When asked about policies for overseas business development (new investment or expansion of existing operating bases) in the future (roughly the next three years), 52.8% of respondents in the manufacturing, trading, wholesale, and retail sectors reported plans to expand the size of their businesses, a drop of 13.6 percentage points from the previous year's results. However, most of this drop consisted of firms shifting to a policy of maintaining current status (up 12.4 percentage points), while the percentages of respondents reporting policies of shrinking or withdrawing from overseas businesses or not investing overseas remaining largely unchanged. A breakdown of respondents planning to expand their businesses shows that an overwhelming majority of 77.4% planned to expand sales functions. Furthermore, when firms whose overseas units' business performance was impacted by the financial crisis that started in the U.S. were asked about their countermeasures against the crisis, most responses indicated a positive approach, with 23.0% citing expansion of existing overseas businesses and 22.8% starting new businesses overseas (Figure I - 38).

== Figure I-38 ==

Although the number of firms taking a cautious approach has currently increased, it can be said that many firms are advancing overseas, particularly through active expansion of overseas sales channels, even under harsh operating circumstances created by the financial crisis.

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Column I-1 Overseas Income of Japanese Firms Supported by Asia and Oceania

■ **Overseas operating income surpasses its domestic counterpart**

According to the data on Japanese firms' overseas income collected by JETRO from preliminary financial statements of 890 listed firms whose fiscal year ends between December 2008 and March 2009, overseas units of the Japanese firms accounted for 36.2% in terms of sales (not including exports from Japan) and 52.5% in terms of operating income. It

was the first time since collection of these figures began in FY1997 that operating income from overseas exceeded domestic operating income (Column Table I-1).

== Column Table I-1 ==

A look at figures for income (sales and operating income) of the overseas units of 841 firms, for which comparison with the previous fiscal year's results is available, shows that sales decreased by 14.2% and operating income decreased by 38.7%, the first decrease in sales and operating income in 10 years since FY1998, a year the Asian currency crisis occurred. However, in comparison with the decreases of 12.3% in domestic sales and 65.5% in domestic operating income, damage to operating income of overseas units was limited (Column Table I-2).

== Column Table I-2 ==

The Americas suffered the most serious impact on income (with a decrease of 18.8% in sales and 89.8% in operating income). Either decreased profits or losses recorded in nearly all industries. Conditions were particularly severe in the transport equipment field (73 firms), where sales fell by 29.2% and operating income of US$1,209.7 billion posted in the previous year turned to operating loss of US$388.0 billion, which eroded operating income for the Americas by 68.1%. Meanwhile, sales and operating income in Europe fell by 16.0% and 69.9%, respectively. The impact of the crisis was relatively limited in Asia and Oceania, where sales fell by 11.1% and operating income by 20.0%, as performance in materials industries, such as chemicals, remained firm, while machinery and non-manufacturing industries were sluggish. As a result, the share of operating income accounted for by Asia and Oceania (on an 890-company basis) increased greatly from 12.2% in the previous year to 39.4%, providing an underpinning for the income of Japanese firms.

■ **Local market development is an issue in emerging markets**

One major reason behind this firm performance in Asia and Oceania is the fact that the impact of the financial crisis was limited and lagged in being felt in these regions in comparison with other regions and consequently, it has not fully been reflected in the Japanese firms' earnings reports. At the same time, while sales of processing manufacturing industries*[1] such as electrical and transport equipment, in which the impact of the financial crisis has been marked, account for 66.3% of total sales in the Americas, the counterpart figure for Asia and Oceania was as low as 43.5%. Meanwhile, the comparative figure for basic-materials manufacturing industries, on which the impact of the crisis has been comparatively limited, was relatively high at 39.1% in Asia and Oceania. This industrial structure can be pointed to as a possible buffer against the impact of the crisis in these regions.

The fact that income from Asia has become a major element supporting Japanese firms' business performance also highlights some issues for them. Comparison of the share of internal sales (internal sales and transfers/total sales*[2]) among major regions in FY2008 shows that it reached 19.4% in Asia and Oceania, compared to 4.7% in the Americas and 6.3% in Europe. It is likely that the high share of internal sales in Asia is due to Japanese firms establishing production facilities in Asia and using them as bases for exports to Japan or third-party countries. However, in order to benefit from rapid growth in emerging markets in the future, it is expected to be necessary for Japanese firms to revise their traditional strategies of positioning emerging countries and regions just as production bases to explore

markets in Europe and the U.S.

*1 Industry categories of the Tokyo Stock Exchange are basically used. The categories of processing manufacturing industries and basic-materials manufacturing industries used here are based on the Annual Survey of Corporate Behavior from the Cabinet Office of Japan.
*2 In segment information by location included in preliminary consolidated earnings report, regional sales consist of sales to outside customers as well as internal sales and transfers.
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(3) Steadily Expanding Inward FDI

■ **While inward FDI set a new record high, it was unable to escape the effects of the financial crisis**

In 2008, inward FDI towards Japan (balance of payments basis, net) totaled US$24.6 billion, rising by 10.7% yoy to post a new record high for the second consecutive year. The value of capital inflow (gross) rose 8.1% yoy to US$73.2 billion. On the other hand, the value of capital outflow rose by 6.8% yoy to just US$48.6 billion, resulting in an increase in the value of net inflow (Figure I - 39). The value of net inflow of equity capital more than doubled from the previous year's figure of US$10.5 billion to US$24.1 billion. In addition to multiple large-scale M&A deals, chiefly in the first half of the year, injection of capital into financial institutions boosted the inflow of equity capital (gross) by 18.2% to US$41.5 billion. At the same time, the number of large-scale withdrawals from Japan was limited, and the value of capital outflows (withdrawal of capital from Japan) fell by 29.5% to US$17.3 billion. Among other items, while reinvested earnings (undistributed income of companies invested in) decreased by 2.3% to a net inflow of US$3.8 billion, other capital (such as loans between parent companies and subsidiaries) fell from a net inflow of US$7.8 billion in the previous year to a net outflow of US$3.3 billion. However, the surplus of inflow was maintained for inward FDI as a whole.

== Figure I-39 ==

According to Thomson Reuters data (on a completed-deal basis), inward M&As toward Japan in 2008 totaled US$19,158.91 million, the second highest level after the peak of US$26,474.09 million recorded in the previous year. The number of deals was 168, the same as in the previous year. These included four large-scale deals each totaling more than US$1 billion in value, such as the January 2008 deal (US$4,466.32 million) that made the Nikko Cordial Group a wholly owned subsidiary of Citigroup. However, all these large-scale deals were concentrated in the first three quarters of the year, with only one large-scale deal, i.e. the investment in Benesse Corp. (US$576.4 million), conducted in and after October (Table I - 27).

== Table I-38 ==

Since it would be difficult to expect any large-scale M&As to take place in 2009, and the value of the yen has been in an increasing trend since September 2008, future prospects for inward FDI appear somewhat dark. In fact, with the value of net capital inflows from January through May 2009 depressed to roughly one-third of the results of the same period of 2008, at US$4.0 billion, and a large-scale capital outflow expected from Citigroup's sale of the Nikko Cordial Group, it is hard to expect the full-year figure to exceed the 2008 level.

■ **Capital transfer increased in connection with industrial reorganization**

A look at the values of capital inflows by region in 2008 shows that while inflows from Asia and Central and South America saw double-digit growth, investment from the developed nations of Europe was sluggish and net inflows from the largest investor nation, the U.S., decreased (Figure I - 40).

== Figure I-40 ==

Investment from Asia (net inflow value) rose by 110.7% yoy to US$3.4 billion. This was due to an increase of 111.9% to US$2.7 billion in investment from Singapore, as the government investment fund, GIC, acquired the Westin Tokyo in a major deal (US$721.8 million). Investment from Asian NIEs were generally favorable: investment from South Korea (up 26.5% to US$279.0 million), Hong Kong (up 445.9% to US$257.0 million), and Taiwan (up 80.9% to US$66.0 million) combined rose by 109.2% to US$3.3 billion. While investment from China was not that large in terms of size, at US$37.0 million (up 155.4%), this was the highest level since 1996, from when onward statistics are available. Movements by Chinese investors include Chongqing Changan Automobile's establishment of a wholly owned subsidiary, the Changan Japan Design Center, in Kanagawa Prefecture in April and an investment fund in the CITIC Group making a precision-component press manufacturer, Shinwa Seiko, its subsidiary in November.

Investment from Central and South America as a whole increased by 42.0% to US$4.0 billion, due primarily to an increase of 142.7% (to US$3.6 billion) in the value of investment from the Cayman Islands (a British overseas territory) in the finance and insurance industry. This increase appears to have resulted primarily from capital increases in finance-related firms, conducted through investment subsidiaries.

While the value of net inflow from Western Europe increased only slightly as a whole, rising 1.6% to US$4.9 billion, both inflows and outflows involving this region were active, including injections and withdrawals of capital in the financial and insurance industries, industrial reorganization chiefly in the chemicals and pharmaceuticals industries, and major loans to Japanese subsidiaries in the transport equipment and devices industry.

Investment from the Netherlands increased from a net outflow of US$400.0 million in the previous year to a net inflow of US$2.7 billion. Although capital of nearly US$1.0 billion was withdrawn from the telecommunications industry, the purchase of additional shares in Chugai Pharmaceutical by a Swiss pharmaceuticals giant, Roche, through its Dutch subsidiary (US$919.51 million) and investments in the electrical equipment and devices and general machinery and devices industries boosted overall investment from the country.

Investment from Germany increased from a net outflow of US$800.0 million in the previous year to a net inflow of US$1.2 billion. In addition to a reaction to the contraction of the Japanese operations by a major pharmaceuticals firm in the previous year, deals such as Robert Bosch GmbH making Bosch Japan its wholly owned subsidiary (US$911.38 million) contributed to the increase.

Investment from Switzerland increased by 61.2% to US$1.9 billion. In addition to capital inflows in the chemicals and pharmaceuticals industry, developments such as UBS (bank) investing US$136.29 million in a theme-park operator, USJ were major contributors to the increase.

In contrast, investment from the U.K. and Belgium fell from net inflows in the previous year to net outflows of more than US$1.0 billion each. Investment from the U.K. dropped from a net inflow of US$500.0 million in the previous year to a net outflow of US$1.3 billion

because of large-scale withdrawals of capital from chemicals and pharmaceuticals and wholesale and retail industries. Investment from Belgium recorded a net outflow of US$2.0 billion due to capital outflows in the wholesale and retail and financial and insurance industries.

Although the value of investment from the U.S. decreased by 11.1% from the peak of 2007 to US$11.8 billion, it remained high. The value of inflows into the financial and insurance industries increased substantially when Citigroup increased in the first quarter its ownership of Nikko Cordial Securities (US$4,466.32 million) through a forward triangular merger (a stock-swap M&A paying for the acquisition with parent-company stock) as part of making the latter the formers' subsidiary, and conducted in the fourth quarter a major increase in capital (approximately US$3.6 billion) of a company in the same group. In addition, Citigroup decided to transfer its shares in the Nikko Cordial Group to Sumitomo Mitsui Banking Corp. in the fourth quarter of 2009 (774.5 billion yen, or roughly US$7.9 billion). Also, while large-scale deals such as the acquisition of the real estate of Shinsei Bank's head office by a special-purpose company in the Morgan Stanley Group (US$1,174.45 million) did take place, Ford Motor sold its shares in Mazda (US$528.0 million), resulting in a yoy decline in the value of net inflows.

A look at investment by industry type shows that, as was the case in the previous year, the value of net inflows in non-manufacturing industries, chiefly the financial and insurance industries, accounted for more than 90% of the total at US$22.3 billion. Meanwhile, in manufacturing industries, investment fell substantially in the materials industries of oil, rubber and leather, and glass, earth, and stone, as well as metals, which saw active investment in the previous year. At the same time, investment increased in machinery-related industries such as general machinery and devices and electrical machinery and devices. In these ways, investment in manufacturing industries had a different investment trend than that in the previous year. (See Reference Materials/Supplement Statistics: Annotation 13 at the end of this White Paper.)

■ **Toward more active FDI in Japan**

The balance of inward FDI has increased steadily since the Japanese government announced a plan to double inward FDI in 2003, rising 2.8 times from the 2001 base level of 6.6321 trillion yen under the plan to 18.4562 trillion yen by the end of 2008. As a percentage of GDP, this represents an increase from 1.3% to 3.6% (Figure I - 41). Nevertheless, Japan's balance of inward FDI remains low in comparison with those of other major nations[9]. While in some aspects international comparisons are difficult, since, for example, Japanese International Investment Position statistics do not include indirect investment (see Column I - 2), there is more room for Japanese inward FDI to grow than that for other major nations' inward FDI.

== Figure I-41 ==

Reasons for the virtually growing trend in Japan's inward FDI since 2000 were: the steady growth of the world and Japanese economies until the financial crisis; and the spread of corporate rehabilitation businesses in Japan in line with increased inward M&A activity, backed by improvements in the legal systems governing corporate reorganization (such as company law) and bankruptcies (such as the Civil Rehabilitation Law and the Corporate

[9] According to UNCTAD, the balance of inward FDI as a percentage of GDP globally averaged 27.9% as of the end of 2007, while the average for developed countries was 27.2%.

Reorganization Law). Additional contributing factors that may be identified include improvements in administrative procedures to increase predictability for foreign investors and improvements in corporate governance. With regard to the latter, the Financial Instruments and Exchange Law have made it mandatory for listed firms to report on their internal controls beginning with the business year starting in after April 2008. This has made some contribution to increasing reliability of financial reporting. Appointment of outside directors is spreading as well. According to the Corporate Governance Study Group Report (June 17, 2009) from the Ministry of Economy, Trade and Industry, more than 40% of firms listed on the Tokyo Stock Exchange that have established board of auditors had appointed outside directors, and the percentage is in an increasing trend. Although the report called for further improvements and initiatives in governance systems, it did not go so far as to propose formal institutionalization of appointment of outside auditors.

Under these circumstances, the Japanese government's Expert Committee on FDI Promotion released *Five Recommendations Toward the Drastic Expansion of Foreign Direct Investment in Japan*[10] on May 19, 2008, and in December it revised *the Program for Acceleration of Foreign Direct Investment in Japan* compiled in June 2006. Key points that have newly been added to the program included consideration of the ideal effective corporate tax, active promotion of bilateral investment agreements and execution of Economic Partnership Agreements (EPAs) including sections on investment, consideration of ideal foreign capitals regulations, and, continuation and rehabilitation of domestic firms' operations through M&As. *The Economic and Fiscal Reform 2009*, released June 23, 2009, also states clearly that "progress shall continue to be made in comprehensive study of foreign capitals regulations, an exception to the principle of nondiscrimination between domestic and foreign investors, together with an effort to boost inward FDI in Japan, in accordance with *the Program for Acceleration of Foreign Direct Investment in Japan*."

Efforts toward promotion of inward FDI toward Japan in the areas of administrative procedures and taxation systems are also being implemented. Beginning Aril 1, 2009, the examination period for prior notification of FDI under the Foreign Exchange and Foreign Trade Control Law has been reduced from the previous periods of 30 days in principle (two weeks if no problems arise) to five business days at the shortest, and on June 23, improvements were made including lengthening the periods over which notification of FDI may be submitted, extending the deadline for follow-up reports, and simplification of the subjects of reporting. In the area of taxation as well, gains on sale of stock by foreign investors investing in Japanese firms through means such as venture and rehabilitation funds and satisfying certain conditions have been made, in principle, nontaxable, and taxation conditions have been eased on sale of stock by foreign investors investing in Japanese firms through funds investing over the period of one year or longer. In addition, progress is being made in improving the business environment, with an awareness of competition from Asia, through steps such as the start of operations (June 2009) of the new Tokyo AIM stock market for professionals, established as a joint venture between the TSE and the London Stock Exchange.

In the future, in order to increase international competitiveness in terms of business costs, continued study would be desirable concerning an ideal taxation system, particularly

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[10] The five recommendations are: (1) enhancement of a system toward the facilitation of M&As, (2) comprehensive studies on foreign capitals regulations, (3) establishment of priority strategies by sector, (4) reduction of business costs and improvement of system transparency, and (5) regional revitalization through foreign capital, and strengthening promotion activities to invite foreign capital.

concerning the effective corporate tax rates in Japan[11], which are considered higher level in the world (Figure I - 42). In addition, to raise the level of Japan's investment environment to a more competitive level, there is likely to be a need for environmental improvements to enable foreign firms to do business smoothly in Japan, for example by increasing the efficiency of international movements of people and things through infrastructure improvements, and facilitating international movements of capital by improving the international taxation system, such as reorganization of tax treaties, and concluding investment agreements. Furthermore, since many foreign businesses operating in Japan point to the difficulty of securing human resources such as those with proficient language skills and specialists as impediments to doing business, enhancements in "soft" areas such as human-resources development as needed for foreign capital to do business in Japan remains an issue be addressed.

== Figure I-42 ==

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Column I-2 Trends in treatment of indirect investment in International Investment Position statistics and revision of the Balance of Payments Manual

International Investment Position statistics for each country and region are prepared in accordance the fifth edition of the Balance of Payments Manual (BPM5) compiled by the IMF. However, since in some areas, specific methods of totaling figures are left to the discretion of each country and region, international comparisons are difficult.

Typical examples of such differences include (1) methods of valuation of assets and liabilities (book value or market value) and (2) whether to include indirect investments within the scope of companies booked as direct investments.

While BPM5 recommends evaluation of assets and liabilities at market value, Japan employs book value. However, since 2007, estimated market prices*[1] have been released for figures for 1999 and later, for reference purposes.

Regarding handling of indirect investments, BPM5 calls for including investments satisfying certain criteria (e.g., the direct investor's subsidiaries [greater than 50% participation], the subsidiaries' subsidiaries, branches and affiliates [10-50% participation], and the direct investor's affiliates and their subsidiaries) as direct investments (fully consolidated system, FCS). According to a 2001 survey by the IMF, 13 of the 56 countries surveyed included FCS in their inward FDI balance statistics. However, out of concern for calculation costs and reporting burden, not a few countries restricted their balances to direct investments only, and Japan was one of them.

In December 2008, the IMF released the sixth edition of the BPM (BPM6)*[2]. While this revision to the manual effectively did not make any major changes to handling of indirect investments, it has permitted alternative calculation methods: investments for which the product of multiplication of participation through the direct investment by participation through indirect investment is more than 10% (participation multiplication method, PMM) are to be accounted for as direct investments; and the direct investor's investments in its subsidiaries and affiliates and their subsidiaries alone to be accounted for as direct

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[11] According to *KPMG's Corporate and Indirect Tax Rate Survey 2008* (KPMG International, September 2008), as of April 2008, Japan's effective corporate tax rate was 40.69%, exceeding the average of 26.7% for the 30 OECD member states and that of 25.9% for all 106 countries surveyed.

investments (direct influence/indirect control method [DIIC]). (See Column Figure I-1)

== Column Figure I-1 ==

Whichever method is employed, inclusion of indirect investments in balance statistics in Japan is highly likely to lead to an upward revision of the inward FDI balance*[3].

*1 There are two methods of determining market value: (1) the market price method (using the stock price for listed firms and assessing the value of non-listed firms in reference to the stock prices of listed firms [or indices]), and (2) the current value method (reassessing the current value of the firm by assuming purchase of all tangible assets on the balance sheet). In countries employing assessment by market value (e.g., France and Italy), primarily the market price method is used, out of concern for preparation costs and international comparisons. (The U.S. releases figures for both methods.)

*2 Major changes include recognition of international investment position (IIP), which had been an auxiliary statistic in previous balance of payments statistics, as a core statistic and addition of new statistics to improve systemic consistency with system of national account (SNA) and grasp the status of new transactions. BPM5 was published in 1993, and Japan's IIP statistics shifted to a BPM5 basis beginning in 1996.

*3 For reference, the ratio of consolidated to nonconsolidated figures for 1,613 listed companies in Japan whose fiscal year ended March 2009 is 1.45 on a total asset basis, or 1.27 on a net worth basis (according to statistics from the Tokyo Stock Exchange). However, it must be noted that the scope of direct investments under the FCS system and the scope of consolidation under accounting standards differ on points such as the latter employees the standard of effective control.

References:

Wada, Maiko (2004) *"Cyokusetsu toshi ni okeru kansetsu shusshi saki no toriatsukai ni tsuite"* ("Treatment of Indirectly Owned Enterprises in Direct Investment." September 2004 .September 2003(Bank of Japan)

Wada, Maiko and Koichiro Ohnishi (2003) "*Kokusai shushi tokei, taigai shisan fusai zandaka ni okeru chokusetsu toshi no tokeijo no atsukai ni tsuite"* ("Differences in Treatment of Direct Investment in the Balance of Payments Statistics and the International Investment Position"). August 2003 (Bank of Japan)

"Japan's Balance of Payments for 2008 (Preliminary)." March 2009 (Bank of Japan)

IMF, *The Survey of the Implementation of Methodological Standards for Direct Investment (SIMSDI)*, 2003

——, *The Coordinated Direct Investment Survey Guide*, March 2008

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Table I-1 GDP growth and contribution by country and region

(%)

	2005		2006		2007		2008		2009(Estimate)		2010(Estimate)	
	Growth rate	Contribution	Growth rate	Contribution	Growth rate	Contribution	Growth rate	Contribution	Growth rate	Contribution	Growth rate	Contribution
U.S.	2.9	0.7	2.8	0.6	2.0	0.4	1.1	0.2	-2.8	-0.6	0.0	0.0
EU 27	2.2	0.5	3.4	0.8	3.1	0.7	1.1	0.3	-4.0	-0.9	-0.3	-0.1
Japan	1.9	0.1	2.0	0.1	2.4	0.2	-0.6	0.0	-6.2	-0.4	0.5	0.0
East Asia	8.1	1.3	9.1	1.5	10.1	1.8	6.6	1.2	2.9	0.5	5.3	1.1
China	10.4	0.9	11.6	1.1	13.0	1.3	9.0	1.0	6.5	0.7	7.5	0.9
South Korea	4.0	0.1	5.2	0.1	5.1	0.1	2.2	0.0	-4.0	-0.1	1.5	0.0
ASEAN 10	5.9	0.2	6.2	0.2	6.6	0.3	4.5	0.2	-0.7	0.0	2.2	0.1
India	9.2	0.4	9.8	0.4	9.3	0.4	7.3	0.3	4.5	0.2	5.6	0.3
Central and South America	4.7	0.4	5.7	0.5	5.7	0.5	4.2	0.4	-1.5	-0.1	1.6	0.1
Brazil	3.2	0.1	4.0	0.1	5.7	0.2	5.1	0.1	-1.3	0.0	2.2	0.1
Central and Eastern Europe	6.0	0.2	6.6	0.2	5.4	0.2	2.9	0.1	-3.7	-0.1	0.8	0.0
Russia	6.4	0.2	7.7	0.2	8.1	0.3	5.6	0.2	-6.0	-0.2	0.5	0.0
Middle East	5.8	0.2	5.7	0.2	6.3	0.2	5.9	0.2	2.5	0.1	3.5	0.1
Africa	5.8	0.2	6.1	0.2	6.2	0.2	5.2	0.2	2.0	0.1	3.9	0.1
World	4.5	4.5	5.1	5.1	5.2	5.2	3.2	3.2	-1.3	-1.3	1.9	1.9
Reference												
Developed Countries	2.6	1.6	3.0	1.8	2.7	1.6	0.9	0.5	-3.8	-2.1	0.0	0.0
Developing Countries	7.1	2.9	8.0	3.3	8.3	3.5	6.1	2.7	1.6	0.7	4.0	1.8
BRICs	8.4	1.6	9.5	1.9	10.5	2.1	7.6	1.6	3.3	0.7	5.5	1.3

(Notes) (1) The world GDP growth rate is calculated with the IMF's weighted purchasing power parity (PPP).

(2) Contribution by each country and region is calculated with the weighted PPP for 2008.

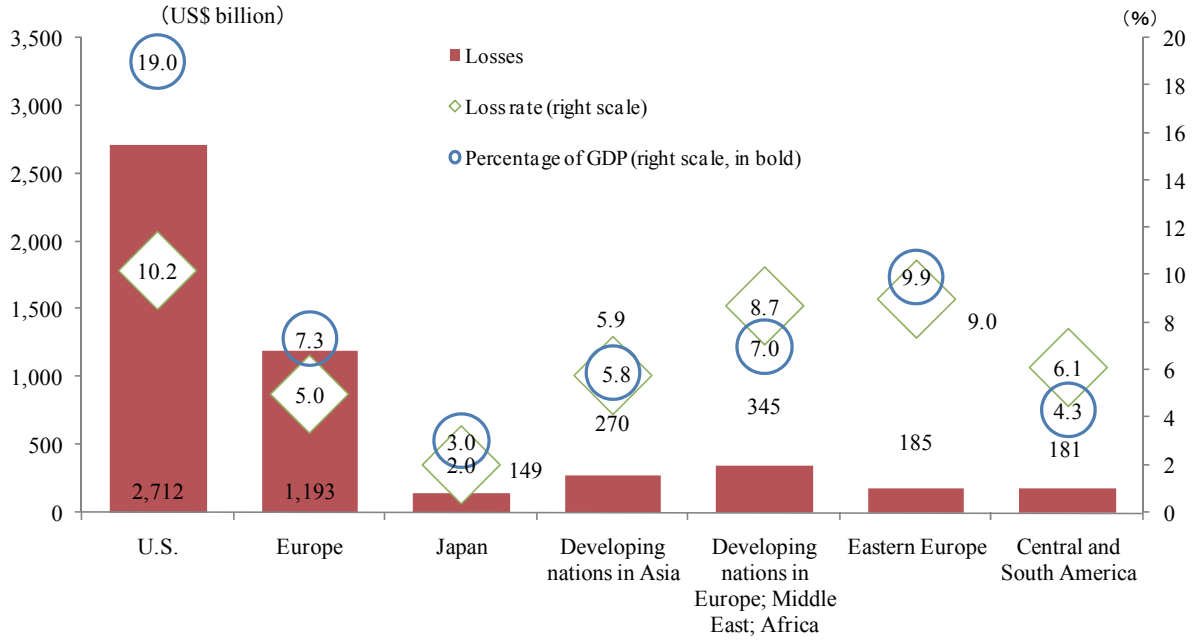
(3) East Asia includes the 10 ASEAN countries, China, South Korea, Hong Kong and Taiwan.

(4) Figures may differ from other parts due to the revision of and difference in original statistics.

(5) The definition of the developing countries follows the World Economic Outlook (IMF).

(Source) Prepared based on the World Economic Outlook (IMF)

Figure I-1 Financial-Institution Losses In Connection With the Financial Crisis (2007 - 2010)



Notes: (1) Bank losses as a percentage of GDP for each region have been calculated based on 2008 nominal GDP figures for each region.
(2) Loss rates represent ratios to financial institutions' balances of loans and securities held.
Source: Based on *World Economic Outlook (WEO)* (IMF, April 2009) and *Global Financial Stability Report* (IMF, April 2009).

Figure I-2 Cross-border bank credit balances (by credit recipient)

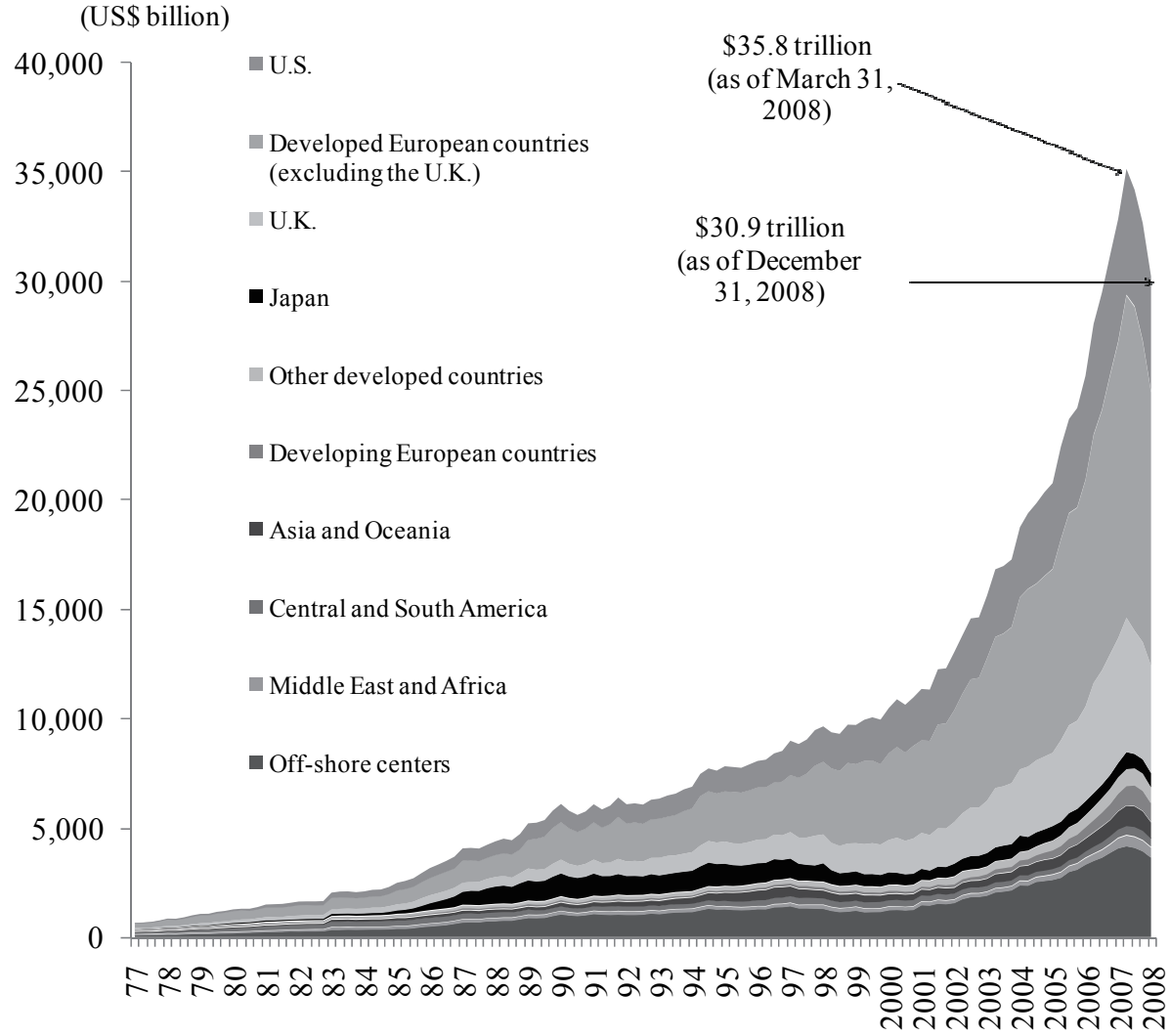
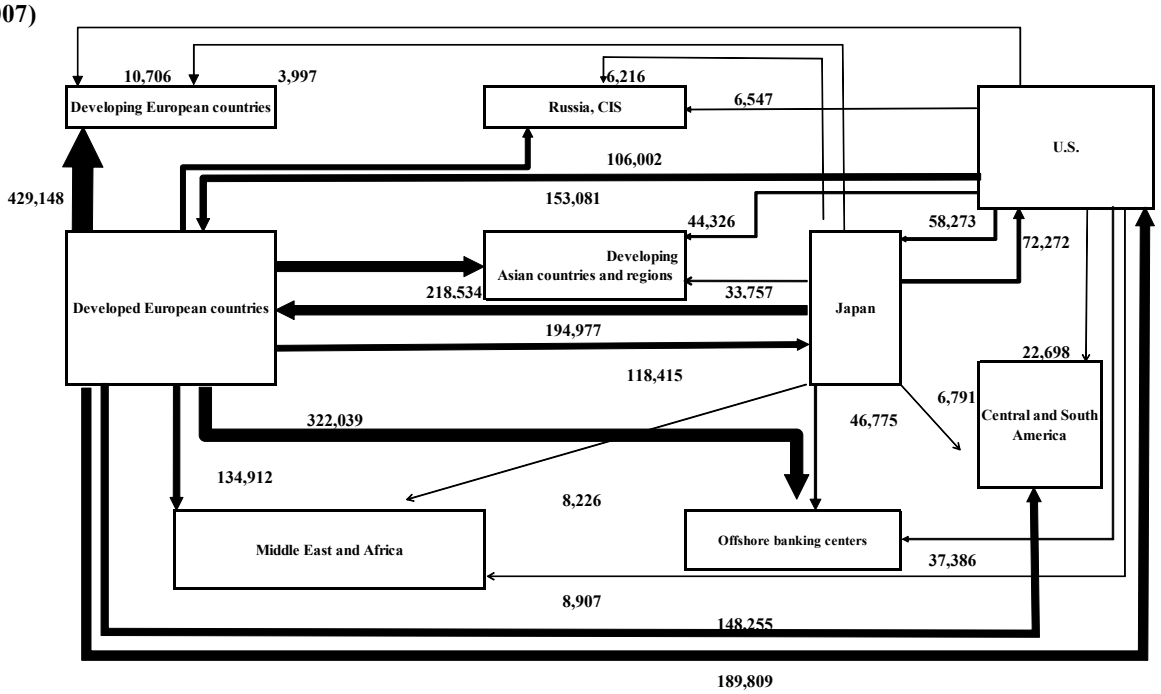


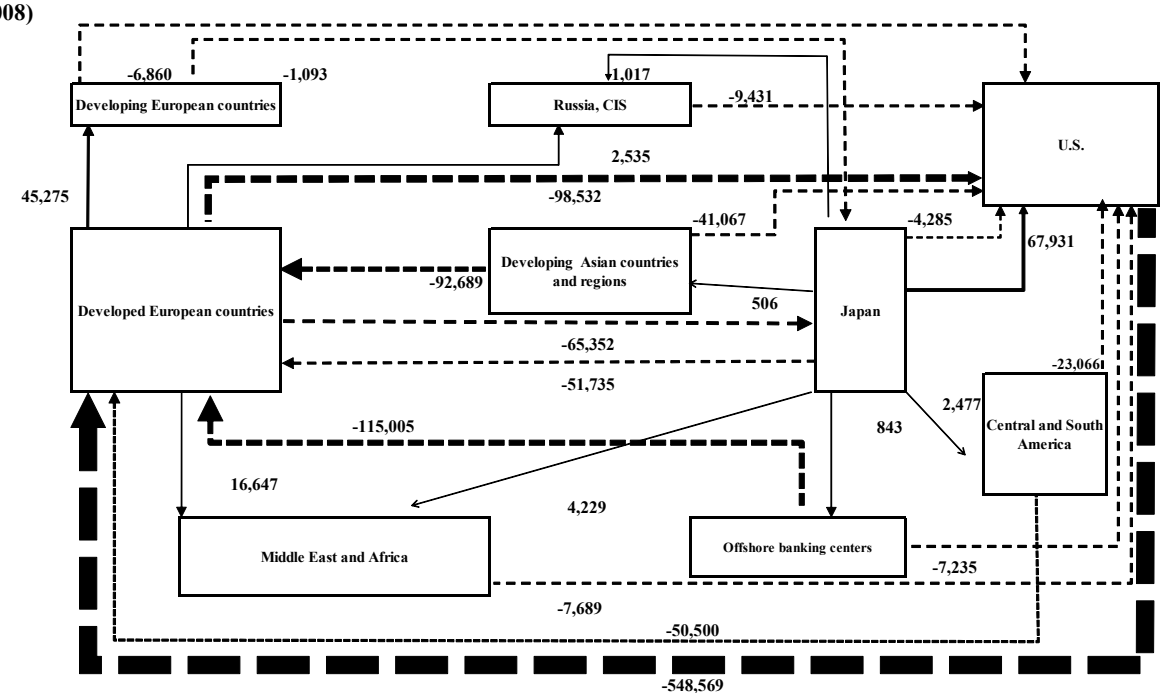
Figure I-3 Rise and fall of cross-border bank credit balances (consolidated, ultimate-risk basis)

(Solid lines indicate credit expansion; dotted lines indicate credit contraction) **(US$ million)**

(2007)



(2008)



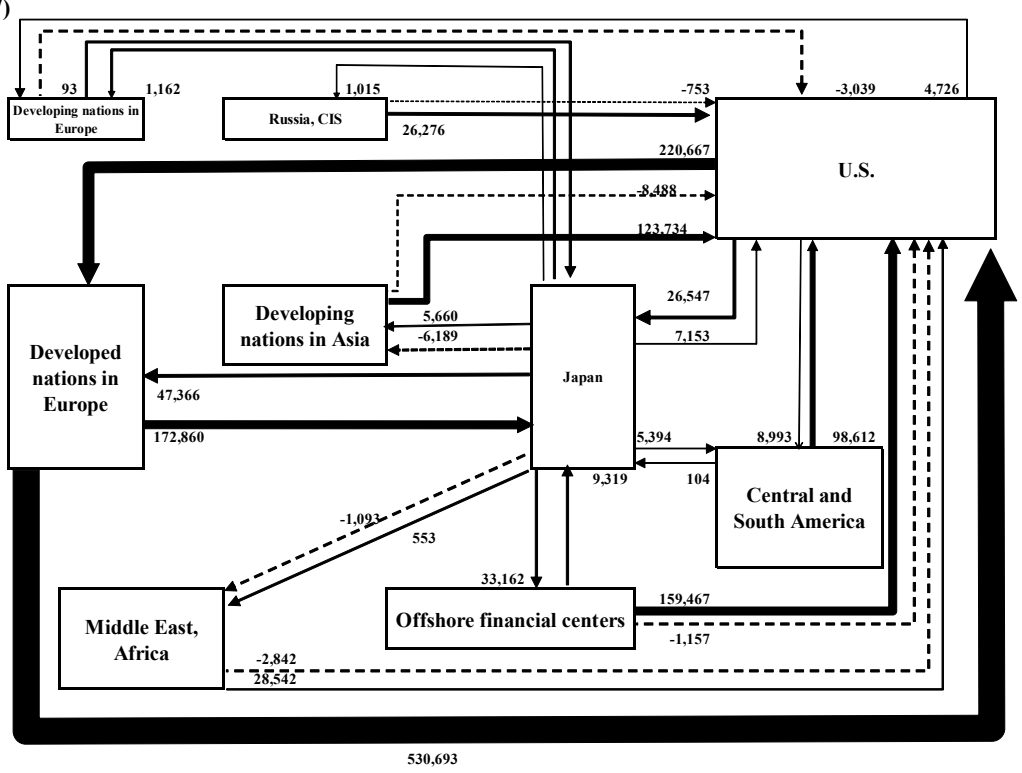
(Notes) (1) Positive values denote an expansion of credit; negative values represent a contraction (capital withdrawal).
(2) The ultimate-risk basis values were compiled in order to gain an understanding of the actual country risk, and were calculated in part by adding transnational money flows moving through banks (excluding their overseas subsidiaries and branches) into foreign banks located within each country
(3) Classification of countries and regions follows the BIS system in principle, except that Russia and the CIS countries were excluded from the developing Asian and European countries. Hong Kong and Singapore were included in the offshore banking centers.

(Source) Prepared based on BIS statistics.

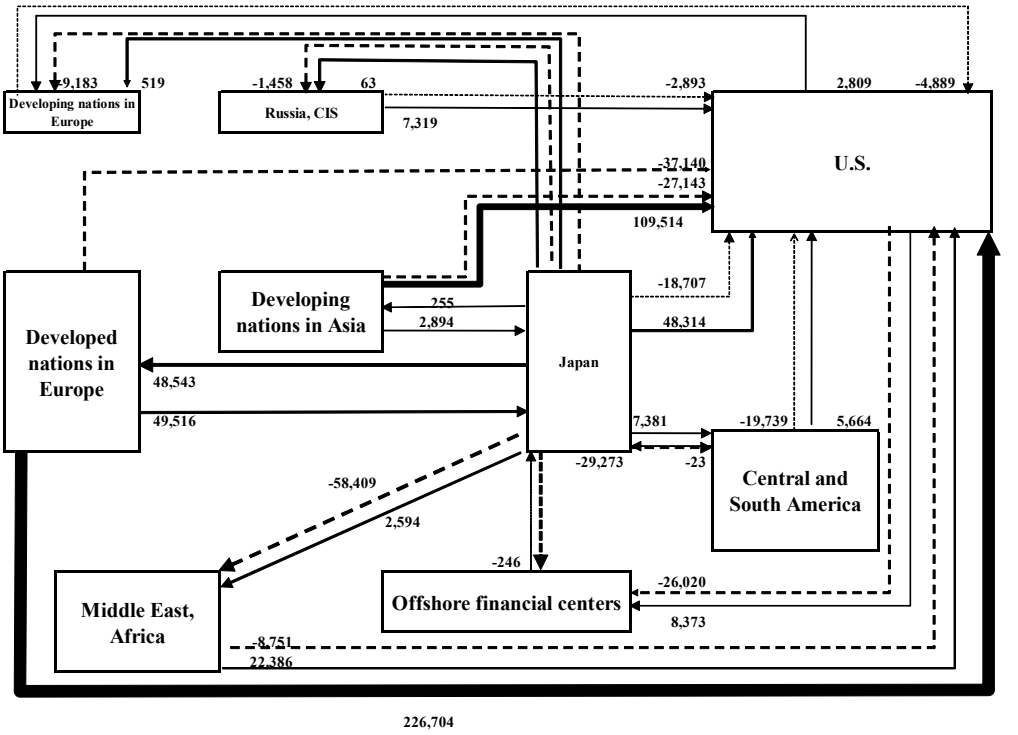
Figure I-4 Trends In Cross-Border Securities Transactions

(Solid lines represent increases in investment amounts, dotted lines represent repatriation of funds) **(Units: US$ million)**

(2007)



(2008)



Notes: (1) Positive figures indicate a surplus of acquisition by residents of securities issued by nonresidents, while negative figures indicate a surplus of sale by residents of securities issued by nonresidents (repatriation of funds).

(2) While regional categories are based primarily on the text, for offshore financial centers figures have been totaled for countries and regions corresponding to BIS definitions. For transactions with Japan, developed countries in Europe correspond to the category "Western Europe," while for transactions with the U.S., they correspond to the 12 euro-zone nations plus Denmark, Norway, Sweden, Switzerland, and the United Kingdom. For transactions with Japan, developing countries in Europe correspond to the category "Eastern Europe, Russia, etc.," not including Russia, while for transactions with the U.S., they correspond to Europe as a whole minus countries and territories corresponding to developed countries in Europe and offshore financial centers. For transactions with Japan, figures for Russia and the CIS represent totals for Russia, while for transactions with the U.S., they represent totals for Russia, the Ukraine, and Kazakhstan. For transactions with Japan, developing countries in Asia correspond to Asia as a whole, not including Singapore and Hong Kong. For transactions with the U.S., these figures represent totals for Bangladesh, China, India, Indonesia, South Korea, Laos, Malaysia, Pakistan, the Philippines, Taiwan, and Thailand.

(3) Transactions with Japan have been converted to dollars using average IFS rates during the period.

(4) Japanese statistics have been employed for transactions between Japan and the United States.

Source: Based on *Balance of Payments Statistics* (Ministry of Finance, Bank of Japan) and *Treasury International Capital System* (U.S. Department of the Treasury).

Figure I-5 Trends In Borrowing From Overseas By Major Regions (Percentage of Foreign Reserves) and Current Account Balance

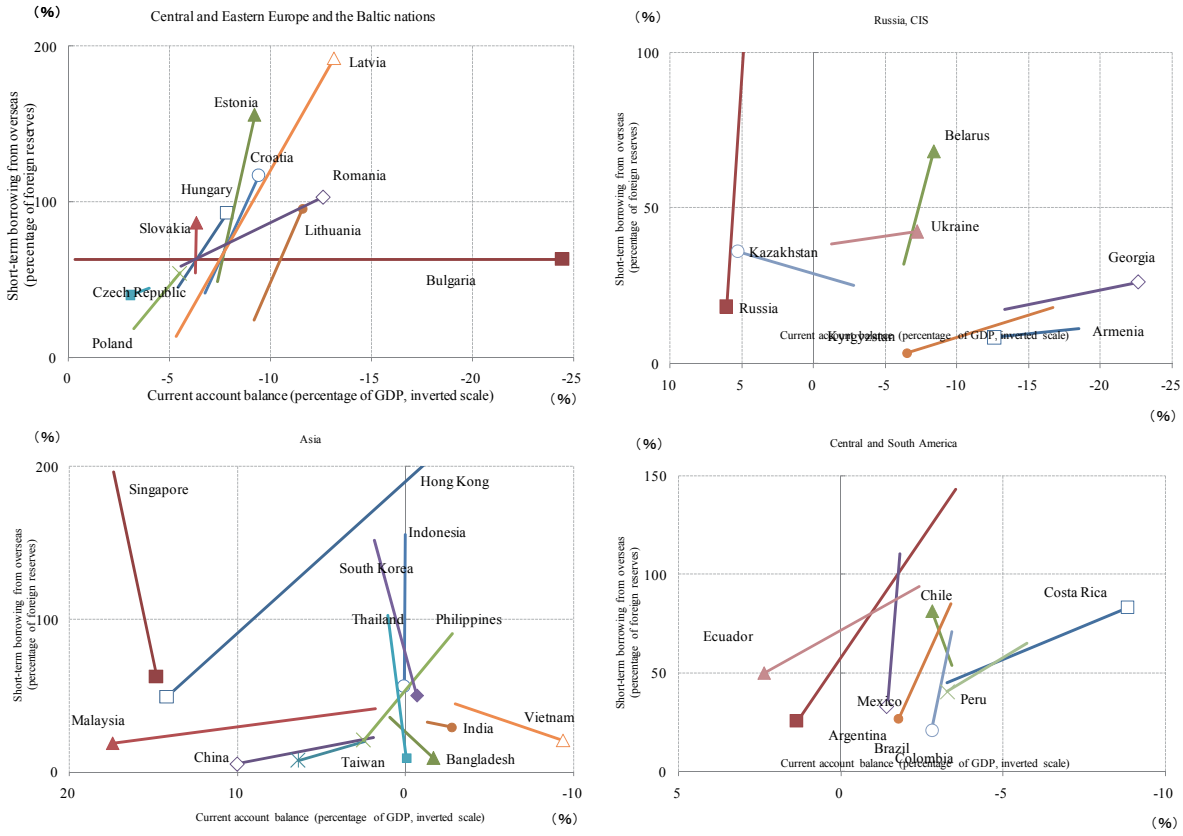
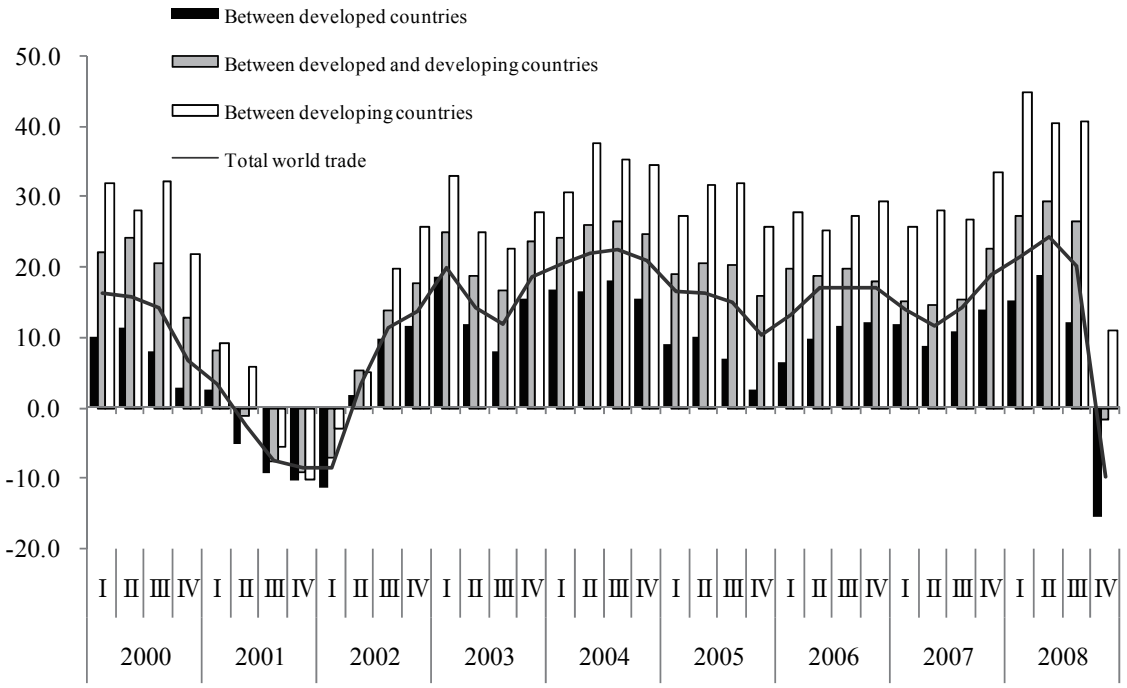


Figure I-6 World trade trends (developed and developing countries)



(Note) The classification for developed and developing countries follows the Direction of Trade Statistics (IMF). Taiwan is classified as a developed country.
(Source) Prepared based on DOT (IMF) and Taiwanese statistics.

Figure I-7 Exports to the U.S. as a Percentage of Exports From Major Countries and Regions, and Percentage Made Up of Machinery and Equipment (2007)

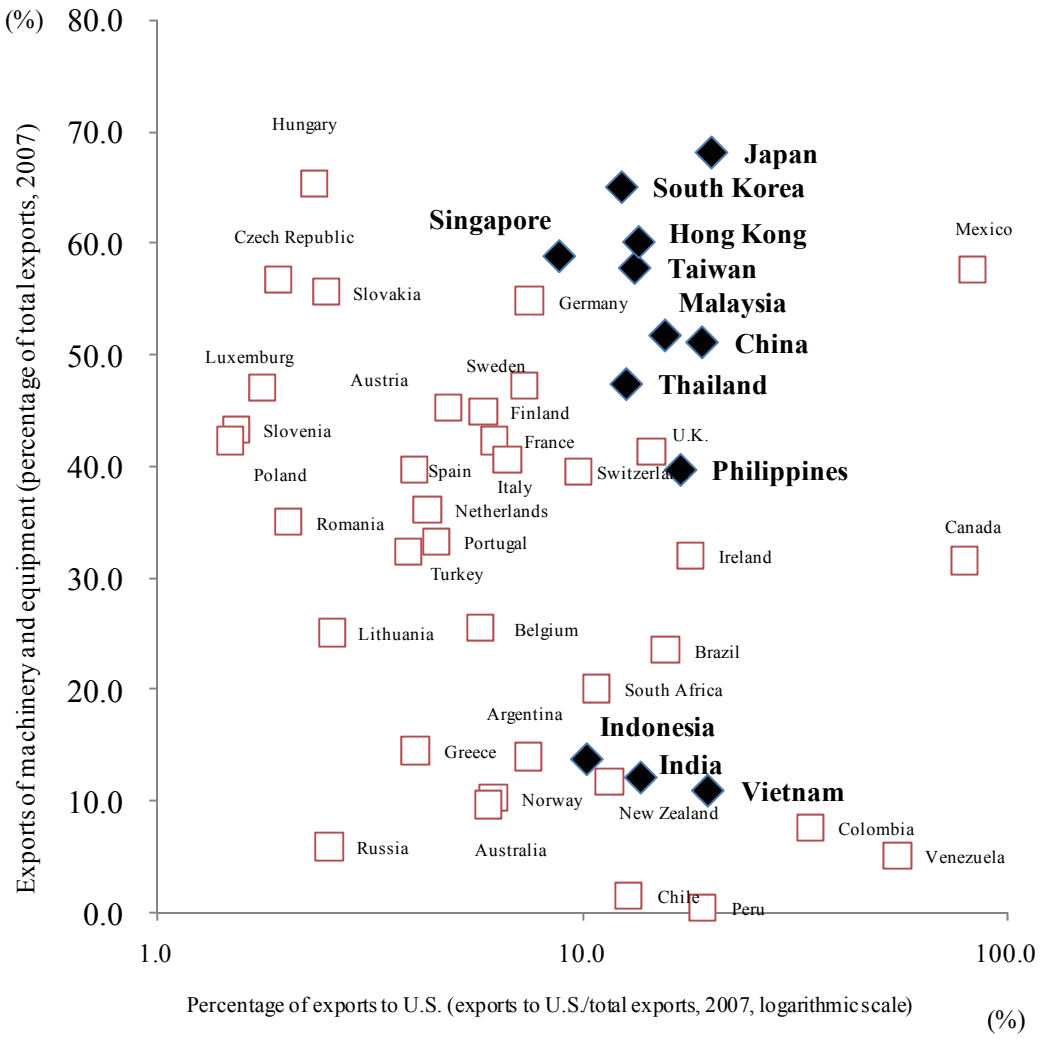
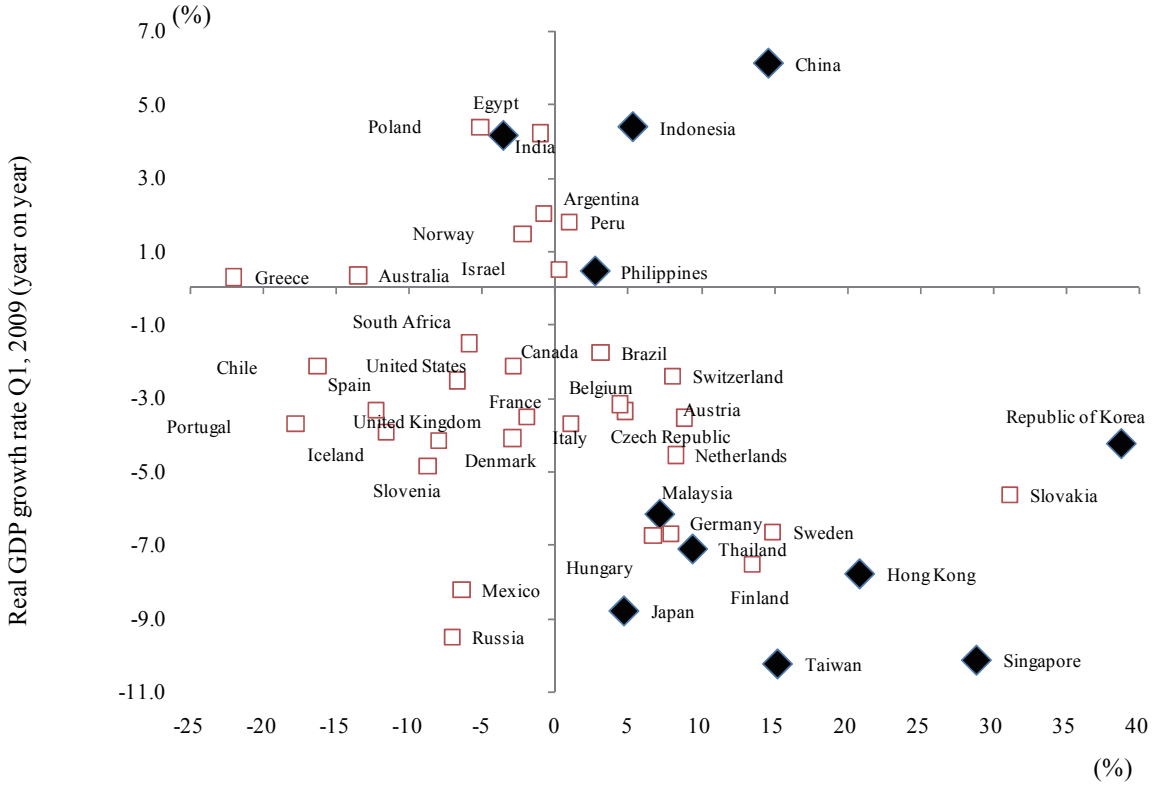


Figure I-8 Net Export Dependency of Major Countries (2007) and Q1 2009 Real GDP Growth Rate



(Notes) (1)◆ denotes Asian countries and regions

(2) The figures for some countries are year-on-year calculations using seasonally adjusted figures.

(Sources) Prepared based on data from "National Accounts Main Aggregates Database" (United Nations, August 2008), statistics of individual countries and data from Thomson Reuters.

Figure I-9 Commodity price indicator and nominal effective dollar exchange rates

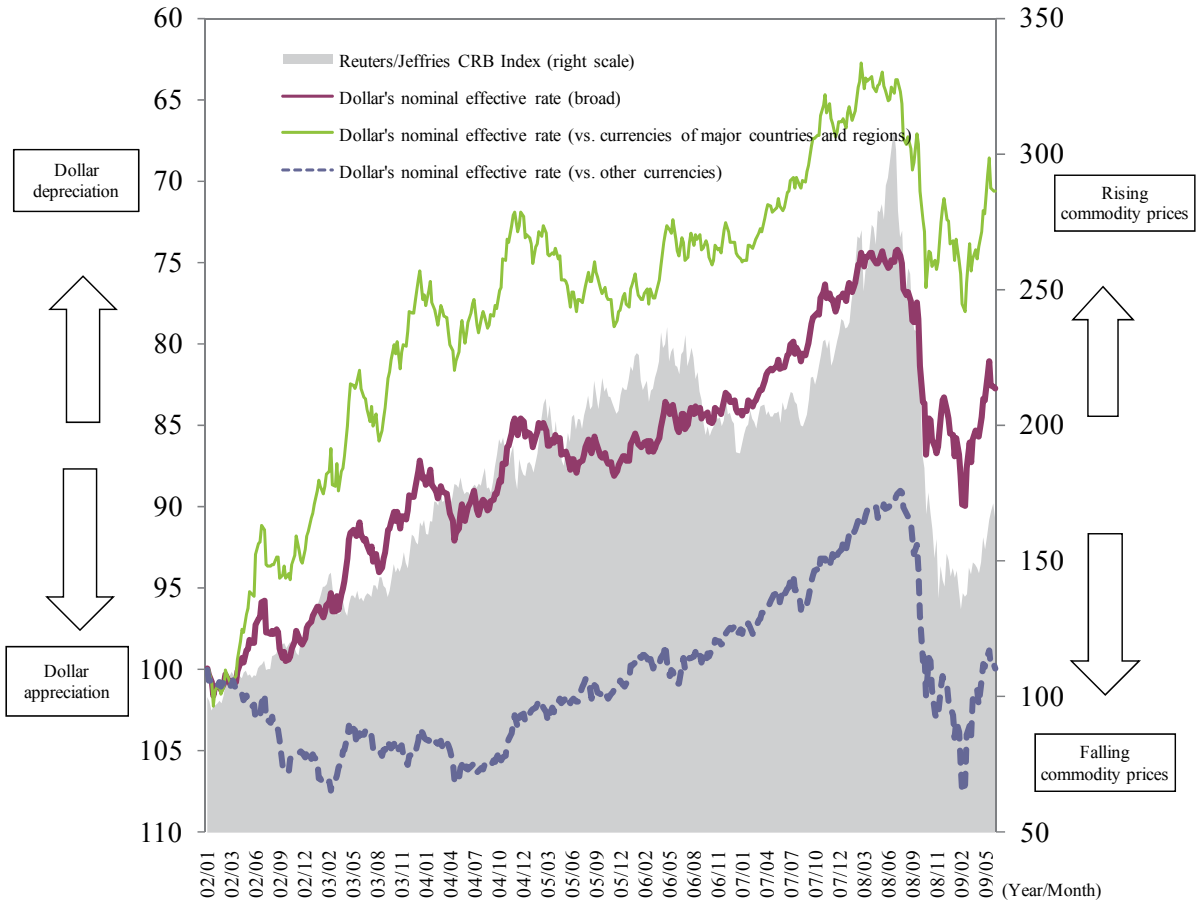


Table I-2 Gaps Between G-20 Public Expenditures (As a Percentage of GDP in 2007) and GDP

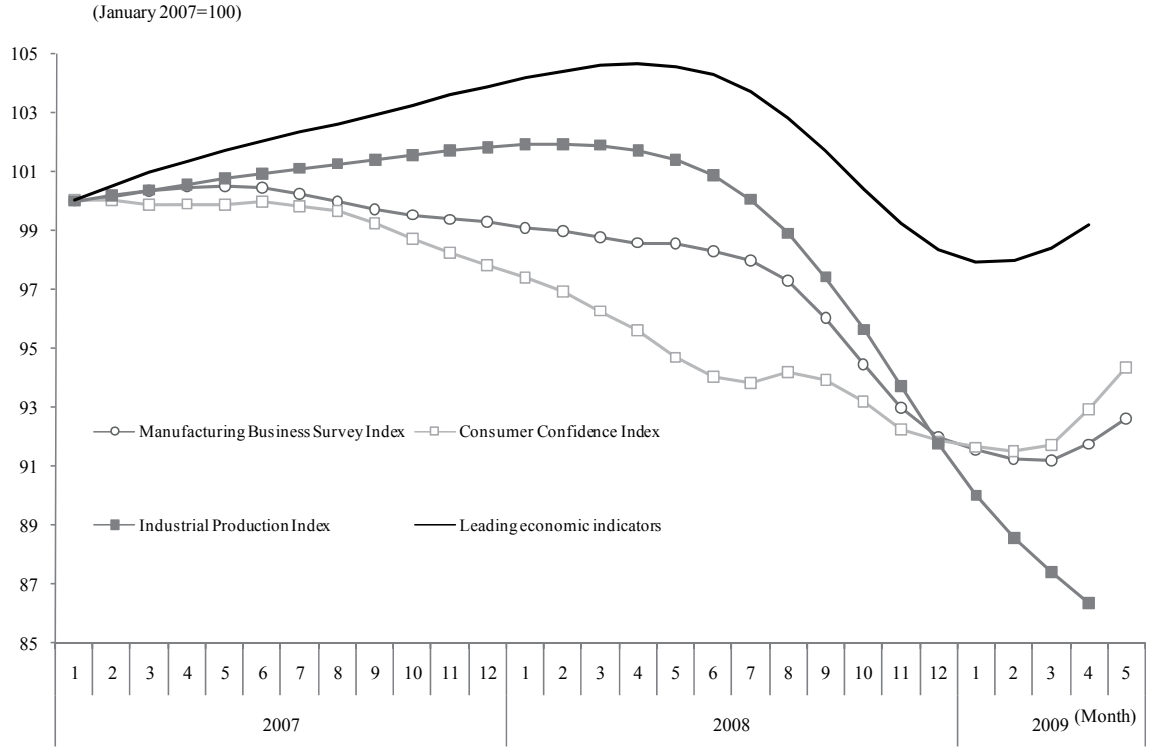
(Unit: %)

	Public expenditures to counter the financial crisis (discretionary spending) as a percentage of GDP			GDP gap (projected)	
	2008	2009 (projected)	2010 (projected)	2009 (projected)	2010 (projected)
Argentina	0.0	1.5	-	-	-
Australia	1.2	2.5	2.1	-1.0	-1.6
Brazil	0.0	0.6	0.5	-	-
Canada	0.0	1.9	1.7	-4.3	-4.7
China	0.4	3.1	2.7	-	-
France	0.0	0.7	0.8	-4.5	-5.2
Germany	0.0	1.6	2.0	-5.8	-7.2
India	0.6	0.6	0.6	-	-
Indonesia	0.0	1.4	0.6	-	-
Italy	0.0	0.2	0.1	-5.1	-5.7
Japan	0.3	2.4	1.8	-8.0	-7.9
South Korea	1.1	3.7	1.2	-	-
Mexico	0.0	1.5	-	-	-
Russia	0.0	4.1	1.3	-	-
Saudi Arabia	2.4	3.3	3.5	-	-
South Africa	2.3	3.0	2.1	-	-
Spain	1.9	2.3	0.0	-0.9	-2.0
Turkey	0.0	0.8	0.3	-	-
U.K.	0.2	1.5	0.0	-5.5	-6.6
U.S.	1.1	2.0	1.8	-4.1	-5.5
Total (PPP weighted-average basis)	0.6	2.0	1.5	-4.6	-5.7

Note: Total GDP gap shown is based on figures for developed nations (33 nations as defined by the IMF).

Source: Based on WEO (IMF, April 2009) and *Fiscal Implications of the Global Economic and Financial Crisis* (IMF, June 2009).

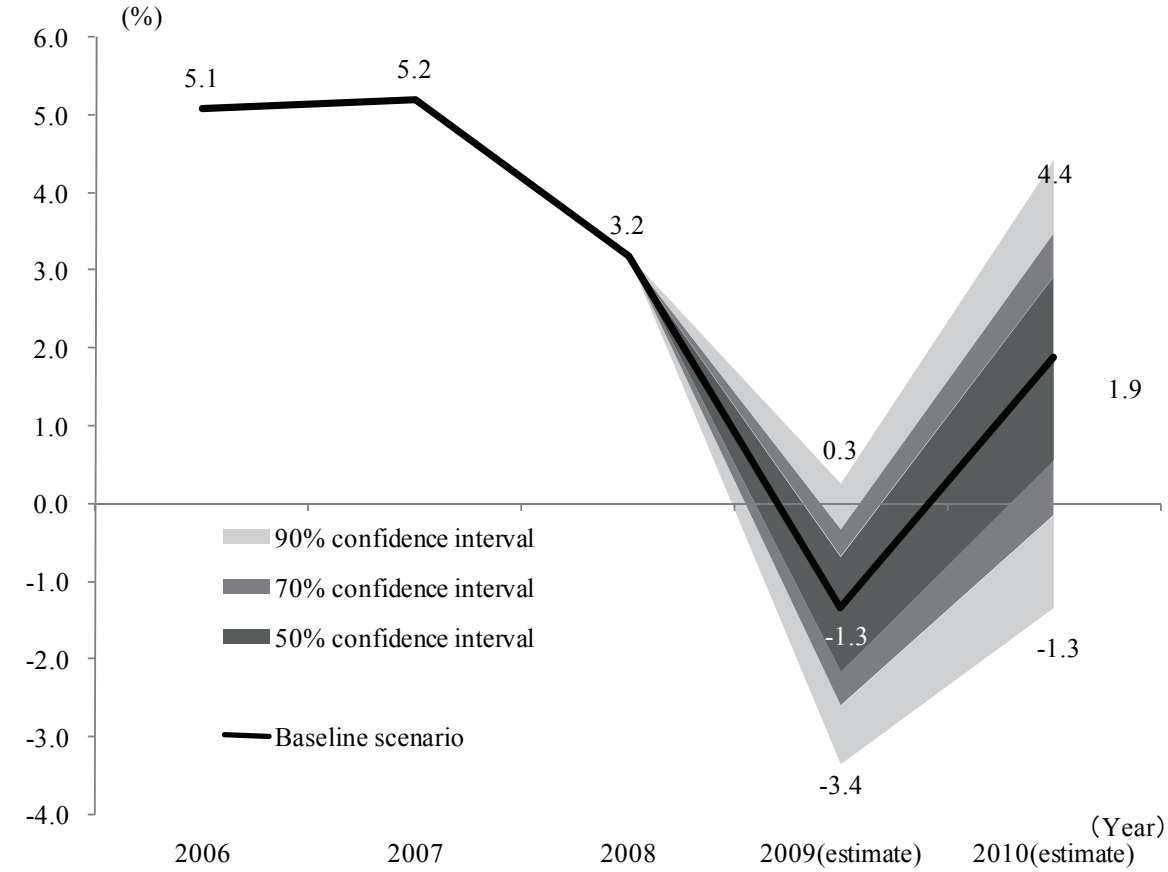
Figure I-10 Trends in OECD countries' economic indicators



(Note) The leading economic indicators and Industrial Production Index figures include all OECD countries as well as India, Indonesia, China, Brazil, Russia and South Africa.

(Source) Prepared based on Organization for Co-operation and Development (OECD) statistics.

Figure I-11 The IMF's global real economic growth rate scenario



(Source) Prepared based on WEO (IMF).

Table I-3 World Trade Indices

		Units	2004	2005	2006	2007	2008
World merchandise trade (export basis)		US$ billion	9,136	10,450	12,124	13,821	15,891
	Nominal growth rate	%	22.2	14.4	16.0	14.0	14.9
	Real growth rate	%	13.5	9.7	11.5	5.6	3.8
	Export price growth rate	%	8.8	4.7	4.5	8.4	11.1
World merchandise trade (import basis)		US$ billion	9,372	10,670	12,252	14,096	16,832
	Nominal growth rate	%	22.2	13.8	14.8	15.1	15.2
	Real growth rate	%	12.7	8.2	9.4	7.0	3.5
	Import price growth rate	%	9.5	5.6	5.4	8.0	11.7
World trade in services (export basis)		US$ billion	2,220	2,480	2,810	3,350	3,730
	Growth rate	%	21.3	11.7	13.3	19.2	11.3
World trade in services (import basis)		US$ billion	2,120	2,350	2,630	3,120	3,470
	Growth rate	%	19.1	10.8	11.9	18.6	11.2
World real GDP growth rate		%	4.9	4.5	5.1	5.2	3.2
Growth in industrial production index (advanced economies)		%	2.9	2.0	3.2	2.6	-2.0
Crude oil	Crude oil prices (average)	US$/barrel	37.8	53.4	64.3	71.1	97.0
	Quantity demand for crude oil	1 million bbl/day	81.8	83.1	83.8	84.9	84.5
Change in nominal effective exchange rate of U.S. dollar		%	-8.2	-1.5	-0.9	-5.4	-5.1

(Notes) (1) 2008 trade value and growth rates are JETRO estimates.
(2) Real growth rate = nominal growth rate - export price growth rate
(3) Real GDP growth rates based on purchasing power parity.
(4) The definition of advanced economies and emerging and developing economies follow IFS classification.
(5) A negative change in the nominal effective exchange rate stands for depreciation.

(Sources) Prepared based on *International Financial Statistics* (IMF), *World Economic Outlook* (IMF), WTO, BP and statistics of individual economies.

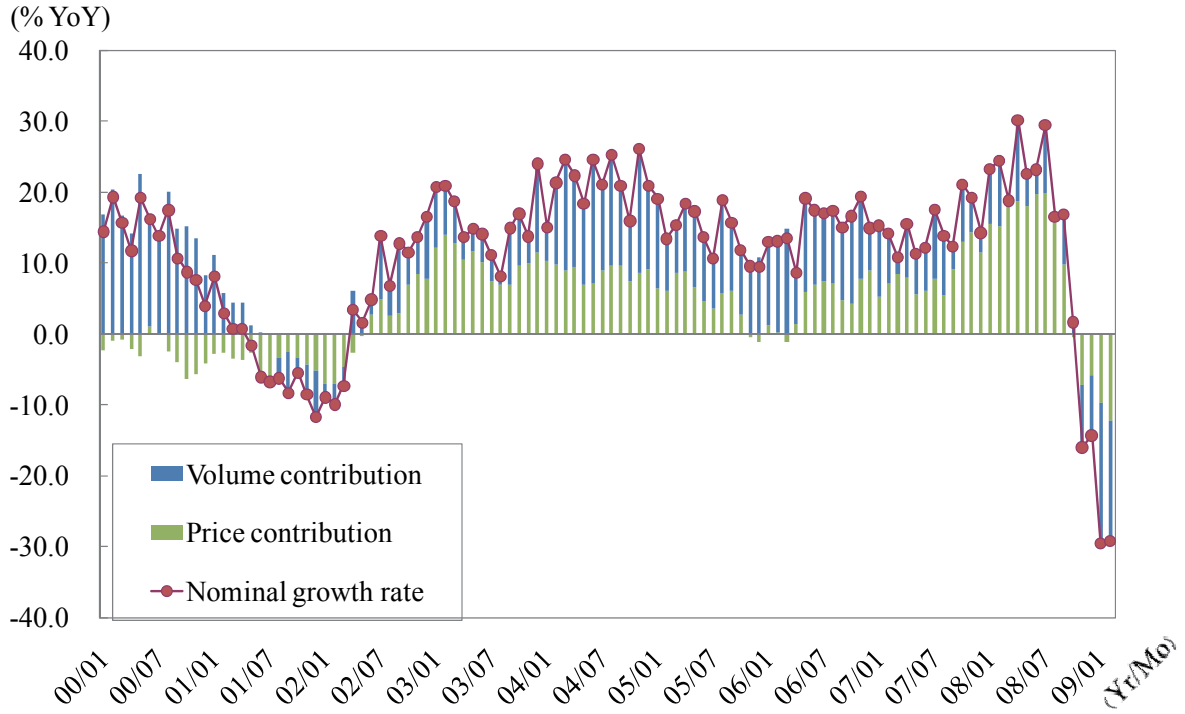
Table I-4 Trends in Growth Rate of Commodity Price Indices

(Unit: %)

	2004	2005	2006	2007	2008
All primary commodities	23.7	24.3	20.7	11.8	27.5
Non-fuel commodities	15.2	6.0	23.2	14.1	7.5
Food	14.0	-0.9	10.5	15.2	23.3
Beverages	-0.9	18.1	8.4	13.8	23.3
Agricultural raw materials	4.1	0.5	8.8	5.0	-0.8
Metals	34.6	22.4	56.2	17.4	-8.0
Energy	31.1	38.1	19.2	10.4	40.1

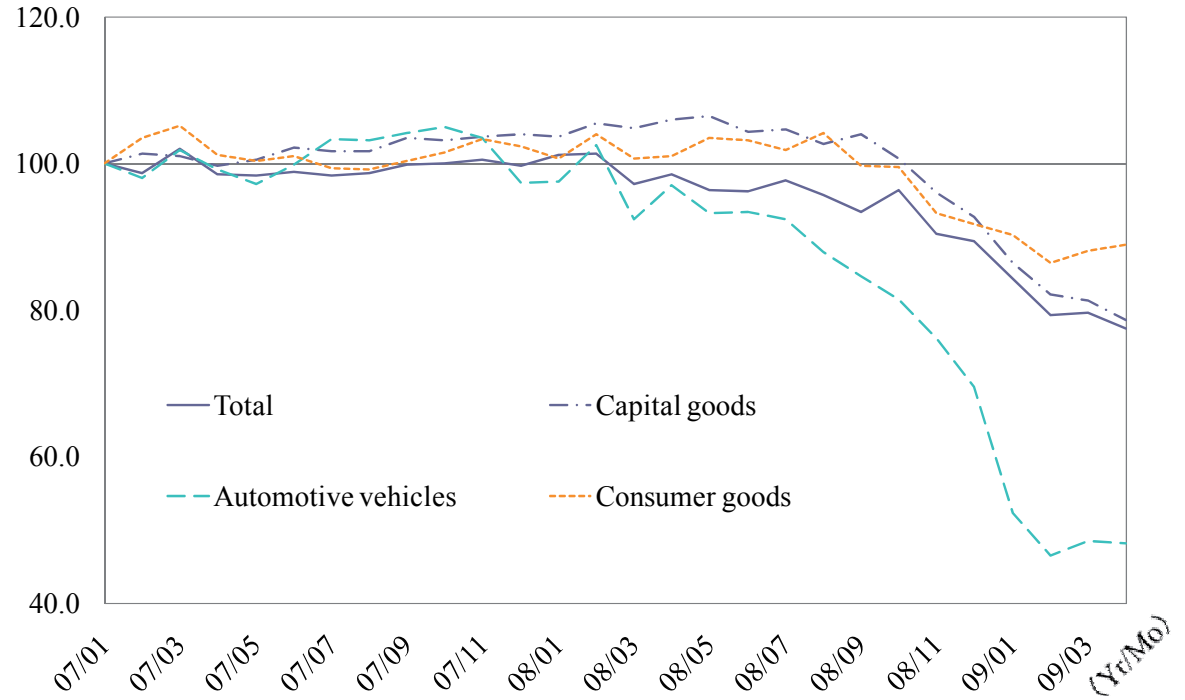
(Source) Prepared based on *International Financial Statistics* (IMF).

Figure I-12 Monthly Change in World Export Growth Rate



(Source) Same as Table I-4.

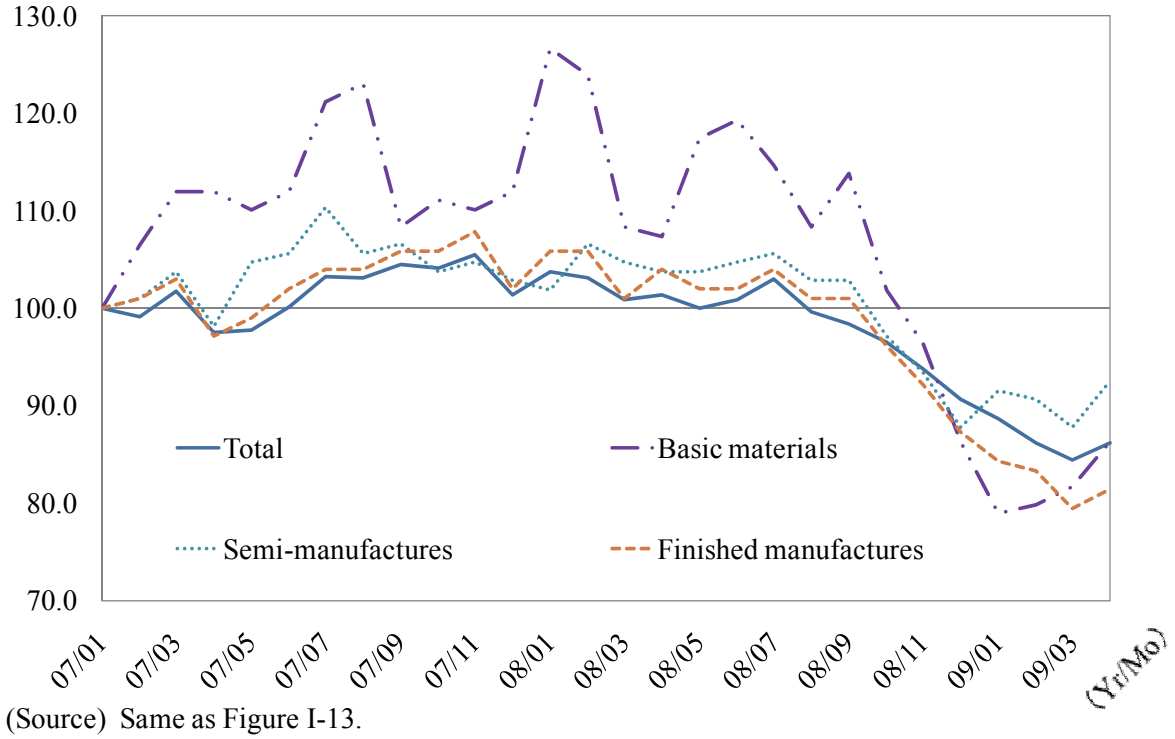
Figure I-13 Trends in Real Imports in US (January 2007-April 2009)



(Source) Prepared based on Thomson Reuters.

Figure I-14 Trends in Real Imports in the UK (January 2007 - April 2009)

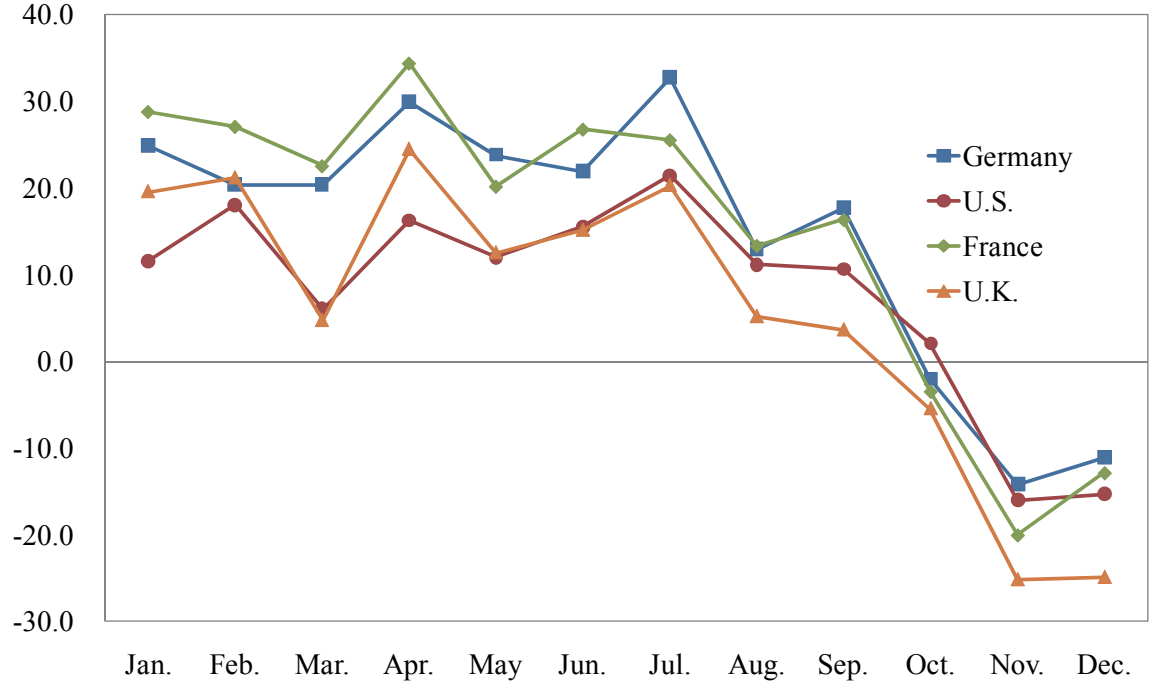
(January 2007=100)



(Source) Same as Figure I-13.

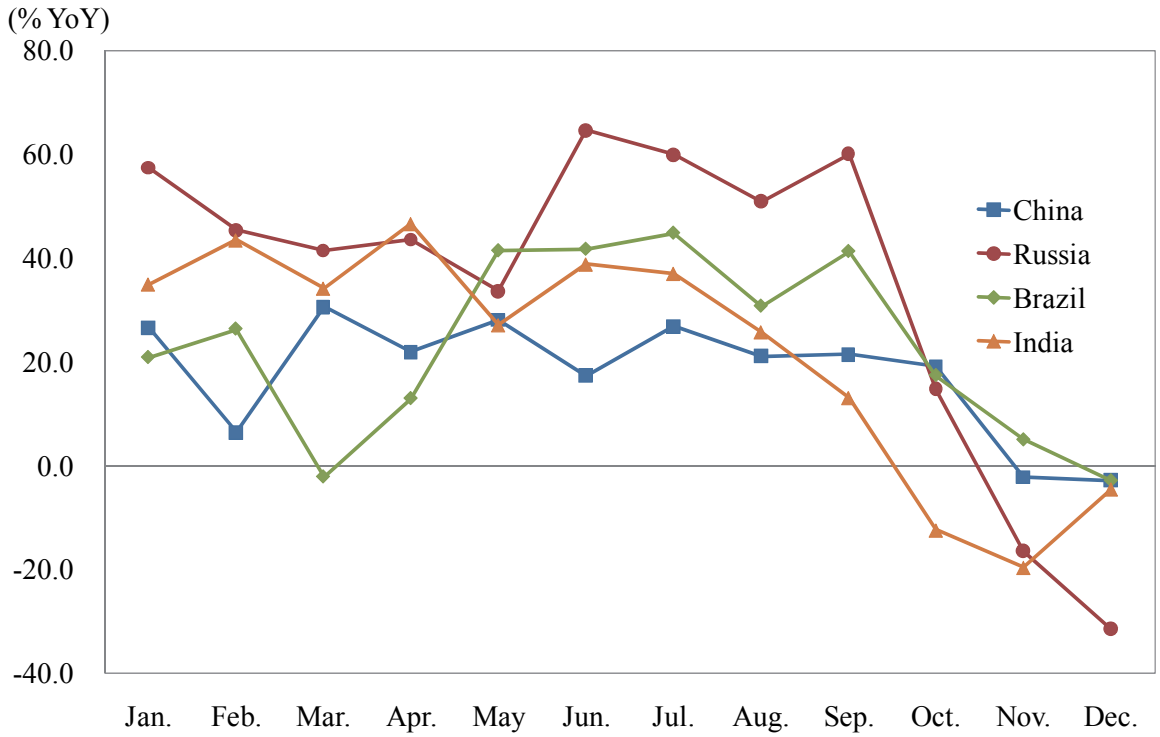
Figure I-15 Trends in Imports of Major Advanced Economies

(% YoY)



(Sources) Prepared based on statistics from individual economies.

Figure I-16 Trends in BRICs Exports



(Source) Same as Figure I-15.

Table I-5 World Trade by Country and Region (2008)

(US$ million, %)

	Exports				Imports			
	Value	Growth rate	Share	Contribution	Value	Growth rate	Share	Contribution
NAFTA	2,036,681	9.8	12.8	1.3	3,134,263	7.7	18.6	1.5
US	1,287,442	10.7	8.1	0.9	2,337,379	7.5	13.9	1.1
Canada	456,574	8.5	2.9	0.3	453,719	7.4	2.7	0.2
Mexico	292,666	7.6	1.8	0.1	343,165	9.5	2.0	0.2
EU27	5,935,445	10.9	37.4	4.2	6,213,390	12.1	36.9	4.6
EU15	5,284,156	10.0	33.3	3.5	5,422,378	11.0	32.2	3.7
Germany	1,464,715	10.8	9.2	1.0	1,204,290	14.0	7.2	1.0
Netherlands	633,650	14.8	4.0	0.6	573,639	16.3	3.4	0.5
France	606,814	9.9	3.8	0.4	706,558	13.9	4.2	0.6
Italy	539,591	7.8	3.4	0.3	556,190	8.6	3.3	0.3
UK	483,567	8.9	3.0	0.3	669,499	5.3	4.0	0.2
Belgium	476,978	10.3	3.0	0.3	470,446	13.7	2.8	0.4
Spain	268,982	6.1	1.7	0.1	402,972	3.4	2.4	0.1
Sweden	183,979	8.8	1.2	0.1	167,659	9.7	1.0	0.1
Japan	775,918	8.9	4.9	0.5	756,086	21.7	4.5	0.9
East Asia	3,429,242	13.3	21.6	2.9	3,123,827	17.6	18.6	3.2
China	1,428,869	17.3	9.0	1.5	1,131,469	18.3	6.7	1.2
South Korea	422,007	13.6	2.7	0.4	435,275	22.0	2.6	0.5
Hong Kong	370,654	6.0	2.3	0.2	393,443	6.1	2.3	0.2
Taiwan	243,233	3.6	1.5	0.1	239,666	9.6	1.4	0.1
ASEAN	964,478	13.2	6.1	0.8	923,974	22.5	5.5	1.2
Singapore	338,143	12.9	2.1	0.3	319,748	21.5	1.9	0.4
Malaysia	199,759	13.3	1.3	0.2	157,086	6.8	0.9	0.1
Thailand	177,846	9.0	1.1	0.1	180,583	19.0	1.1	0.2
Indonesia	137,020	20.1	0.9	0.2	129,197	73.5	0.8	0.4
Vietnam	62,685	29.1	0.4	0.1	80,714	28.8	0.5	0.1
Philippines	49,025	-2.5	0.3	-0.0	56,646	2.4	0.3	0.0
Russia	367,573	31.4	2.3	0.6	255,574	34.8	1.5	0.5
Switzerland	200,336	16.4	1.3	0.2	183,200	13.6	1.1	0.1
Brazil	197,942	23.2	1.2	0.3	192,441	43.6	1.1	0.4
Australia	186,560	32.0	1.2	0.3	212,080	20.9	1.3	0.3
India	178,034	20.6	1.1	0.2	292,848	34.6	1.7	0.5
Norway	164,146	20.3	1.0	0.2	87,691	9.2	0.5	0.1
Turkey	131,934	22.9	0.8	0.2	201,706	18.4	1.2	0.2
South Africa	80,208	14.8	0.5	0.1	101,176	13.9	0.6	0.1
World trade value (estimate)	15,890,769	14.9	100.0	14.9	16,832,338	15.2	100.0	15.2
Advanced economies	9,619,666	10.7	60.5	6.7	10,774,759	11.5	64.0	7.6
Emerging and developing economies	6,271,103	21.9	39.5	8.2	6,057,580	22.2	36.0	7.5
BRICs	2,172,418	20.3	13.7	2.6	1,872,331	25.0	11.1	2.6

(Notes) (1) Trade values for the world, EU27, advanced economies and emerging and developing economies are based on JETRO estimates.

(2) ASEAN includes the following six countries: Singapore, Thailand, Malaysia, Indonesia, the Philippines and Vietnam.

(3) East Asia referred to in this section stands for 10 economies: China, South Korea, Taiwan, Hong Kong and the six ASEAN countries.

(4) The definition of advanced economies and emerging and developing economies follow DOT (IMF).

(Source) Same as Figure I-15.

Table I-6 Trends in Export Growth Rate by Economies (YoY Change, October - December 2008)

(Unit: %)

Exported from \ Exported to	October			November			December		
	Advanced economies	Emerging and developing economies	World	Advanced economies	Emerging and developing economies	World	Advanced economies	Emerging and developing economies	World
Advanced economies	-6.2	7.9	-1.9	-22.8	-8.4	-18.4	-18.1	-6.1	-14.2
Emerging and developing economies	14.6	17.9	15.9	-5.8	7.6	-0.8	-7.0	7.6	-1.4
World	0.8	11.7	4.3	-16.9	-2.2	-12.1	-14.0	-0.6	-9.4

(Note) The definition of advanced economies and emerging and developing economies is same as Table I-5.
(Source) Prepared based on *Direction of Trade Statistics* (IMF).

Table I-7 Trends in Trade Intensity Indices with U.S. and China, for Selected Asian Economies (Export Basis)

(Unit: points)

	U.S.			China		
	1980s	1990s	2000s	1980s	1990s	2000s
China	0.5	1.0	1.3	-	-	-
South Korea	2.2	1.4	1.0	0.0	2.1	3.5
Singapore	1.2	1.3	0.8	1.2	1.0	1.4
Malaysia	1.0	1.3	1.2	1.0	1.0	1.2
Thailand	1.1	1.3	1.1	2.2	0.8	1.4
Japan	2.1	1.9	1.6	2.9	1.7	2.3
Hong Kong	1.9	1.5	1.1	11.8	12.7	8.8

(Notes) (1) Trade Intensity Index (export basis) between Economy A and Economy B is calculated as: (value of exports from Economy A to Economy B/total value of Economy A's exports)/(total value of worldwide exports to Economy B/total value of worldwide exports).
(2) Figures for the 2000s are based on averages through 2007.

(Source) Same as Table I-6.

Table I-8 Trends in Exports to the U.S. and China as a Percentage of GDP, for Selected Asian Economies

(Unit: %)

	U.S.			China		
	1980s	1990s	2000s	1980s	1990s	2000s
China	0.7	2.9	5.9	-	-	-
South Korea	9.7	5.3	5.5	0.0	1.6	5.7
Singapore	26.8	26.4	21.0	2.5	3.3	12.2
Malaysia	7.8	15.6	18.9	0.7	2.0	6.0
Thailand	3.6	7.2	10.0	0.6	0.8	4.1
Japan	3.7	2.7	3.0	0.5	0.4	1.5
Hong Kong	24.2	25.3	25.8	15.9	35.1	61.6

(Note) Figures for the 2000s are based on averages through 2007.
(Sources) Prepared based on *Direction of Trade Statistics* and *World Economic Outlook* (both from the IMF).

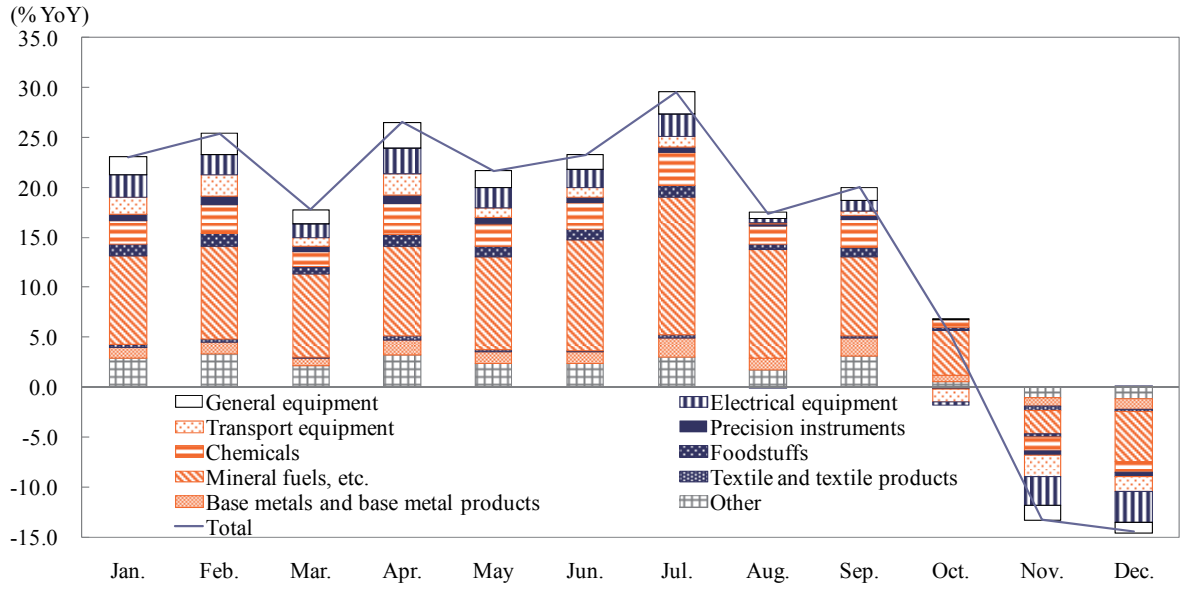
Table I-9 World Trade (Exports) by Product in 2008

(US$ million, %)

	Value	Growth rate	Share	Contribution
Total value	15,890,769	14.9	100.0	14.9
Machinery and equipment	6,024,840	7.3	37.9	3.0
General equipment	1,977,994	8.6	12.4	1.1
Electrical equipment	1,922,179	6.0	12.1	0.8
Transport equipment	1,647,130	6.3	10.4	0.7
Automobiles	781,551	2.6	4.9	0.1
Passenger vehicles	632,596	1.8	4.0	0.1
Motorcycles	22,738	10.0	0.1	0.0
Automobile parts	334,458	2.3	2.1	0.1
Precision instruments	477,145	10.4	3.0	0.3
Chemicals	2,008,634	12.9	12.6	1.7
Industrial chemicals	1,376,563	15.3	8.7	1.3
Pharmaceutical and medical supplies	401,345	16.2	2.5	0.4
Plastics and rubber	632,071	7.9	4.0	0.3
Foodstuffs	970,926	17.0	6.1	1.0
Seafood	72,053	4.5	0.5	0.0
Grains	98,101	40.7	0.6	0.2
Wheat	43,150	47.4	0.3	0.1
Corn	26,807	32.2	0.2	0.0
Rice	16,682	41.2	0.1	0.0
Processed food products	424,219	15.3	2.7	0.4
Oils, fats and other animal and vegetable products	156,701	45.1	1.0	0.4
Miscellaneous manufactured goods	448,057	10.6	2.8	0.3
Iron ore	68,793	63.4	0.4	0.2
Mineral fuels, etc.	2,682,668	44.3	16.9	6.0
Mineral fuels	2,562,004	44.4	16.1	5.7
Coal	96,558	77.4	0.6	0.3
LNG	90,908	56.0	0.6	0.2
Petroleum and petroleum products	2,166,633	43.4	13.6	4.7
Crude oil	1,418,581	43.1	8.9	3.1
Textiles and textile products	640,902	3.5	4.0	0.2
Synthetic fibers and textiles	73,743	-1.1	0.5	-0.0
Clothing	360,873	4.6	2.3	0.1
Base metals and base metal products	1,343,078	11.5	8.5	1.0
Steel	828,907	21.7	5.2	1.1
Copper	55,297	-2.5	0.3	-0.0
Nickel	14,732	-39.3	0.1	-0.1
Aluminum	56,571	-0.9	0.4	-0.0
Lead	5,339	-5.9	0.0	-0.0

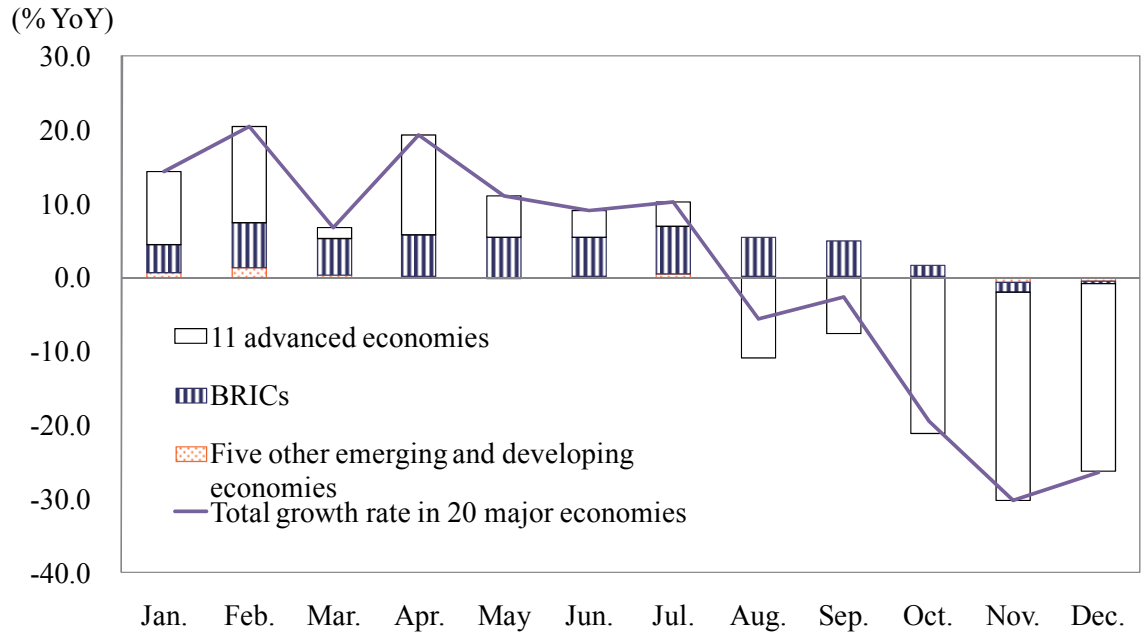
(Source) Same as Figure I-15.

Figure I-17 Import Trends for 20 Leading Economies (January-December 2008, Dollar-Denominated Values' Contribution to Increase or Decrease)



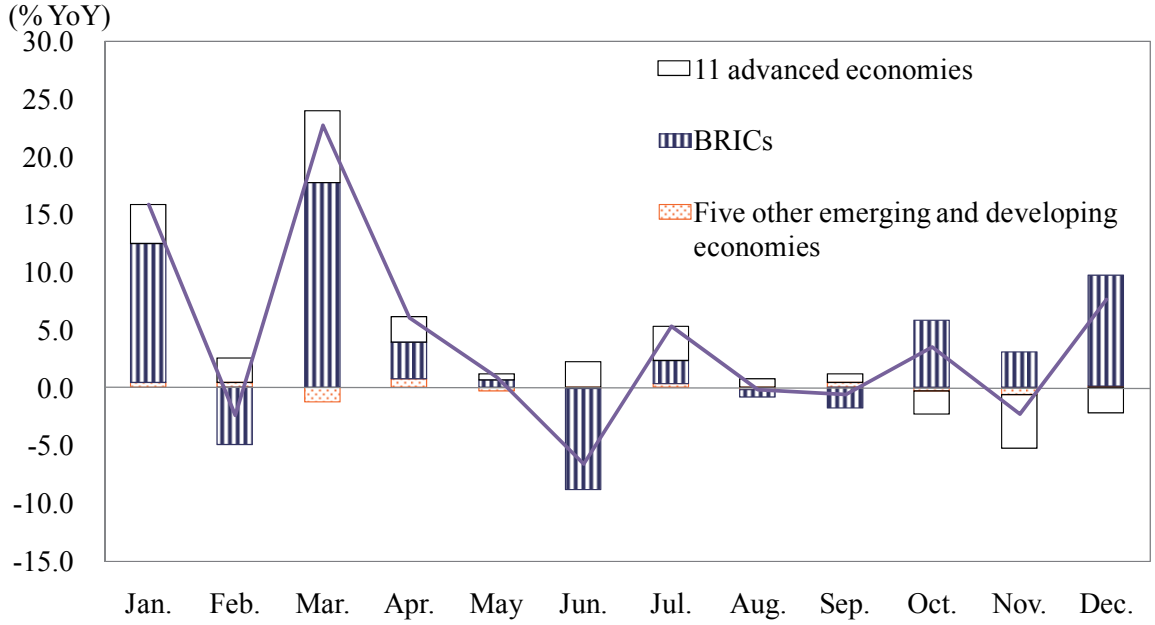
(Notes)(1)The 20 leading economies are: Japan, Germany, China, the US, France, the UK, Canada, South Korea, Hong Kong, Russia, Singapore, Mexico, Taiwan, Switzerland, Malaysia, Brazil, Australia, India, Thailand and Indonesia.
(2)These 20 economies account for 62.9% of world imports by value.
(Source) Same as Figure I-15.

Figure I-18 Trends in Automobile Imports



(Notes) (1)The 20 leading economies are same as Figure I-17.
(2)The definition of advanced economies and emerging and developing economies is same as Table I-5.
(Source) Same as Figure I-15.

Figure I-19 Trends in Clothing Exports



(Notes) (1)The 20 leading economies are same as Figure I-17.
(2)The definition of advanced economies and emerging and developing economies is same as Table I-5.
(Source) Same as Figure I-15.

Table I-10 World IT Trade (Export Basis, 2008)

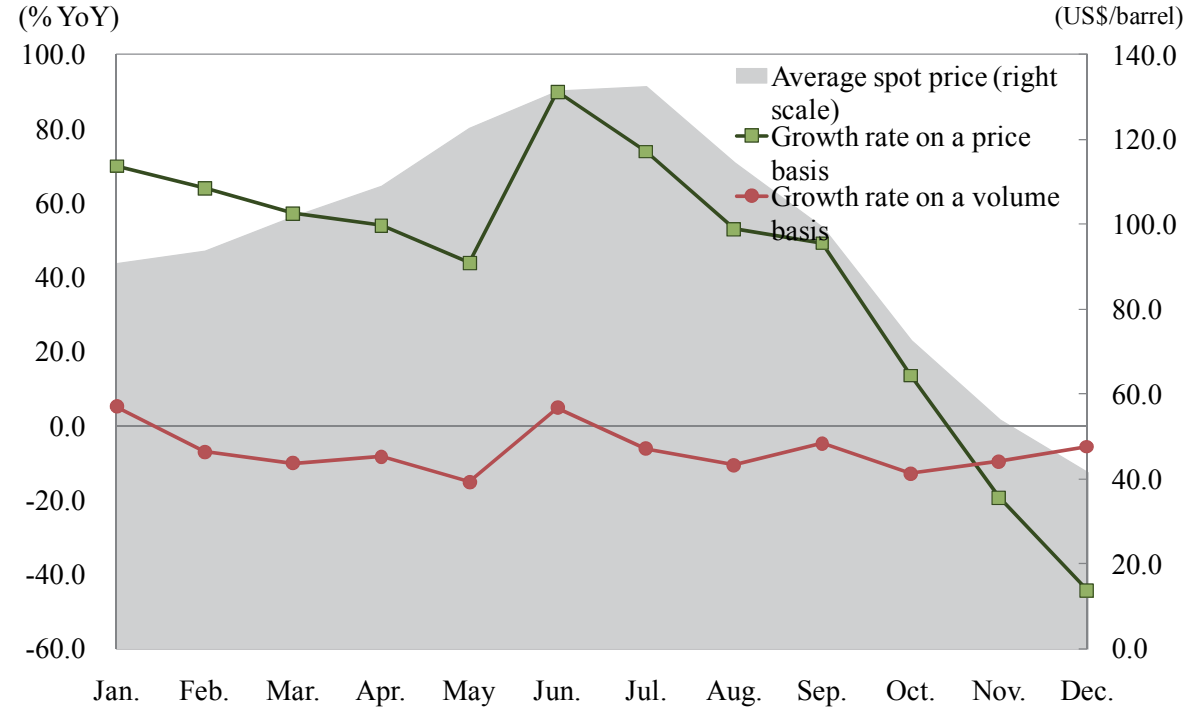
(Unit: US$ million, %)

	Value	Share of total exports	Share of total IT exports
Total IT equipment	2,065,531	13.0	100.0
IT parts	1,021,064	6.4	49.4
Finished IT products	1,044,468	6.6	50.6
Computers and peripherals (total)	456,999	2.9	22.1
Multifunctional digital equipment	18,498	0.1	0.9
Computers and peripherals	287,073	1.8	13.9
Parts of computer and peripherals	151,428	1.0	7.3
Office equipment	5,087	0.0	0.2
Telecommunications equipment	337,903	2.1	16.4
Semiconductors and electronic components	454,485	2.9	22.0
Electronic tubes and semiconductors	95,165	0.6	4.6
Integrated circuits	359,320	2.3	17.4
Other electronic components	408,389	2.6	19.8
Flat panel displays	61,708	0.4	3.0
Video equipment	193,695	1.2	9.4
Digital cameras	41,331	0.3	2.0
Reception apparatus for television	79,368	0.5	3.8
Audio equipment	6,821	0.0	0.3
Portable audio players	5,647	0.0	0.3
Measuring and testing equipment	170,263	1.1	8.2
Machines and apparatus for the manufacture of semiconductor devices	31,889	0.2	1.5

(Note) Time series comparisons with past data is difficult due to significant revisions of HS codes in 2007. For this reason, in this White Paper the current value in 2008 and the share of total exports are listed.

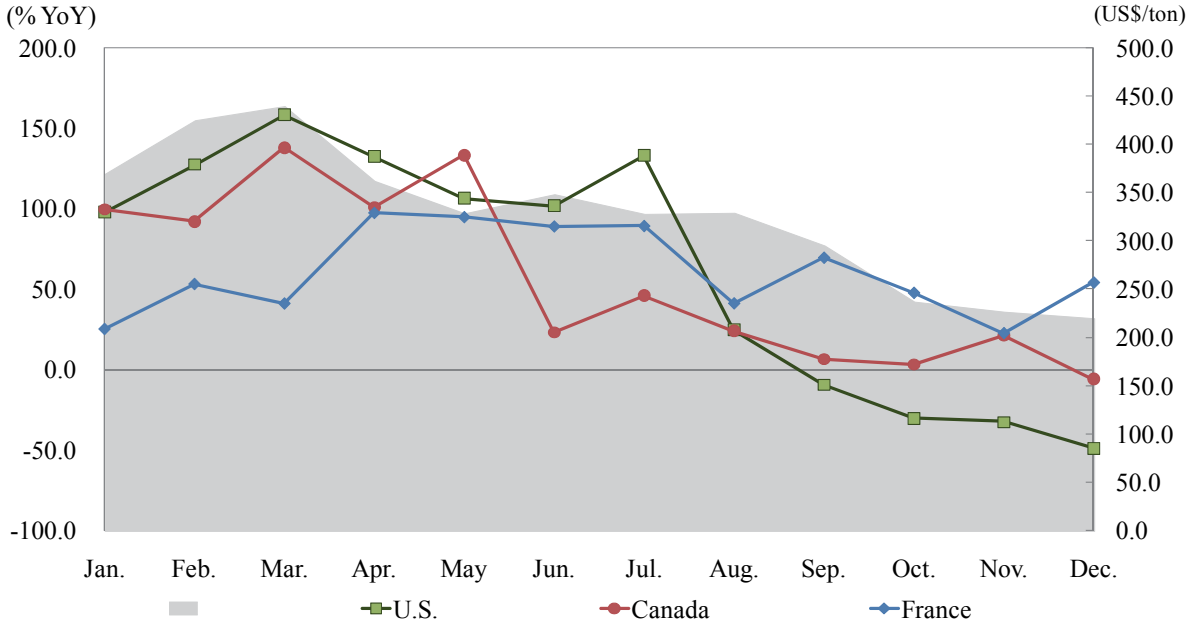
(Sources) Same as Figure I-15.

Figure I-20 Trends in Russia's Crude Oil Export (January - December 2008)



(Sources) Prepared based on *International Financial Statistics* (IMF) and Russia's trade statistics.

Figure I-21 Trends in Wheat Exports from Major Economies



(Sources) Prepared based on *International Financial Statistics* (IMF) and statistics from individual economies.

Table I-11 Quarterly Trends for 17 Leading Economies (by Major Product)

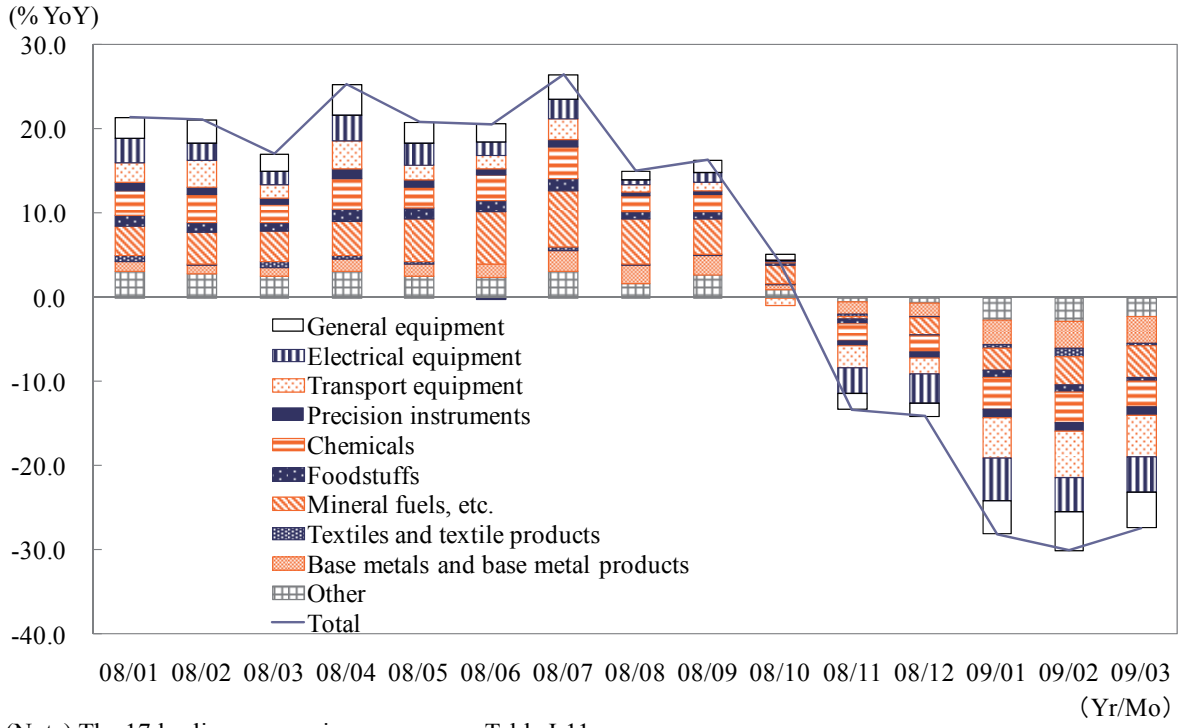
(Unit: US$ million, %)

	Exports						Imports					
	17 leading economies' share of world total in 2008	2008				2009	17 leading economies' share of world total in 2008	2008				2009
		I	II	III	IV	I		I	II	III	IV	I
Total	57.0	2,182,391	2,406,299	2,440,767	2,034,034	1,562,480	57.8	2,361,446	2,576,245	2,641,189	2,154,578	1,662,141
		(19.5)	(22.0)	(19.0)	(- 7.8)	(- 28.4)		(21.1)	(23.2)	(21.3)	(- 8.2)	(- 29.6)
Machinery and equipment	70.8	1,056,317	1,125,471	1,101,942	981,246	733,868	60.4	937,122	1,001,890	982,405	865,648	657,352
		(15.0)	(16.4)	(10.1)	(- 11.0)	(- 30.5)		(12.9)	(13.9)	(7.8)	(- 12.4)	(- 29.9)
General equipment	68.7	336,653	354,986	350,924	316,967	239,747	57.8	291,066	312,178	304,850	273,262	216,139
		(14.9)	(17.8)	(11.7)	(- 6.0)	(- 28.8)		(12.4)	(13.8)	(9.6)	(- 7.1)	(- 25.7)
Electrical equipment	72.4	334,870	359,320	371,315	325,699	236,536	66.2	333,183	352,445	371,382	327,775	238,942
		(13.0)	(15.4)	(8.2)	(- 12.7)	(- 29.4)		(10.8)	(12.8)	(7.3)	(- 13.4)	(- 28.3)
Transport equipment	69.5	293,540	313,319	284,046	253,569	188,698	53.6	228,663	247,063	217,556	184,394	139,868
		(15.6)	(14.6)	(9.9)	(- 15.0)	(- 35.7)		(14.2)	(13.8)	(5.8)	(- 18.7)	(- 38.8)
Precision instruments	77.5	91,254	97,847	95,658	85,011	68,888	68.4	84,210	90,204	88,618	80,217	62,404
		(20.9)	(21.0)	(12.3)	(- 10.1)	(- 24.5)		(19.9)	(18.9)	(9.2)	(- 9.6)	(- 25.9)
Industrial chemicals	59.8	204,481	220,849	219,818	177,635	161,560	55.3	199,207	214,736	219,585	183,294	159,256
		(20.9)	(25.3)	(22.2)	(- 5.7)	(- 21.0)		(17.2)	(21.1)	(21.5)	(- 3.5)	(- 20.1)
Pharmaceuticals and medical supplies	56.6	55,143	59,251	59,385	53,420	55,155	53.7	54,050	56,992	58,271	54,074	52,132
		(17.8)	(24.3)	(21.6)	(3.1)	(0.0)		(13.4)	(17.1)	(16.7)	(2.1)	(- 3.5)
Foodstuffs	46.8	106,660	117,604	121,199	108,917	90,424	50.3	123,970	135,762	130,805	127,018	109,374
		(25.6)	(29.4)	(22.7)	(- 3.5)	(- 15.2)		(18.4)	(22.3)	(18.2)	(1.1)	(- 11.8)
Grains	69.7	17,124	18,261	18,503	14,507	12,784	30.1	9,063	9,733	8,297	7,220	6,656
		(63.0)	(79.5)	(39.6)	(- 12.1)	(- 25.3)		(71.9)	(80.5)	(46.3)	(9.6)	(- 26.6)
Iron ore	69.9	7,861	11,997	16,459	11,777	10,114	82.8	20,010	23,405	26,936	20,071	15,352
		(35.8)	(75.7)	(118.2)	(46.9)	(28.7)		(74.0)	(90.4)	(90.1)	(18.1)	(- 23.3)
Mineral fuels	31.6	170,538	227,926	248,113	162,646	101,388	64.6	425,687	496,199	547,987	357,255	221,318
		(58.6)	(74.9)	(77.4)	(- 0.4)	(- 40.5)		(63.7)	(66.5)	(70.8)	(- 4.8)	(- 48.0)
Crude oil	19.4	57,612	78,322	84,556	54,397	28,381	71.6	262,634	309,134	346,539	205,762	114,126
		(58.2)	(66.9)	(66.0)	(- 10.0)	(- 50.7)		(70.1)	(73.4)	(71.7)	(- 12.2)	(- 56.5)
Textiles and textile products	56.8	82,820	90,069	103,583	87,444	69,296	56.0	88,436	88,527	101,986	84,836	75,834
		(12.1)	(3.9)	(2.7)	(- 2.9)	(- 16.3)		(5.2)	(4.7)	(2.9)	(- 6.3)	(- 14.2)
Clothing	52.9	41,679	42,578	58,446	48,107	37,847	63.6	56,407	52,836	68,999	55,486	51,501
		(12.0)	(- 1.6)	(1.2)	(2.9)	(- 9.2)		(4.6)	(5.0)	(4.1)	(- 2.5)	(- 8.7)
Steel	56.5	103,496	126,490	139,013	99,019	69,563	46.6	90,758	109,126	116,960	89,607	63,422
		(15.4)	(25.0)	(47.5)	(1.7)	(- 32.8)		(14.8)	(23.8)	(39.6)	(7.3)	(- 30.1)

(Notes) (1) Based on data available as of June 30, 2009.
(2) The 17 leading economies are: Japan, Germany, China, the US, France, the UK, South Korea, Canada, Hong Kong, Singapore, Russia, Taiwan, Australia, Switzerland, Brazil, Thailand and the Philippines.
(3) Figures in parentheses represent YoY growth rates.

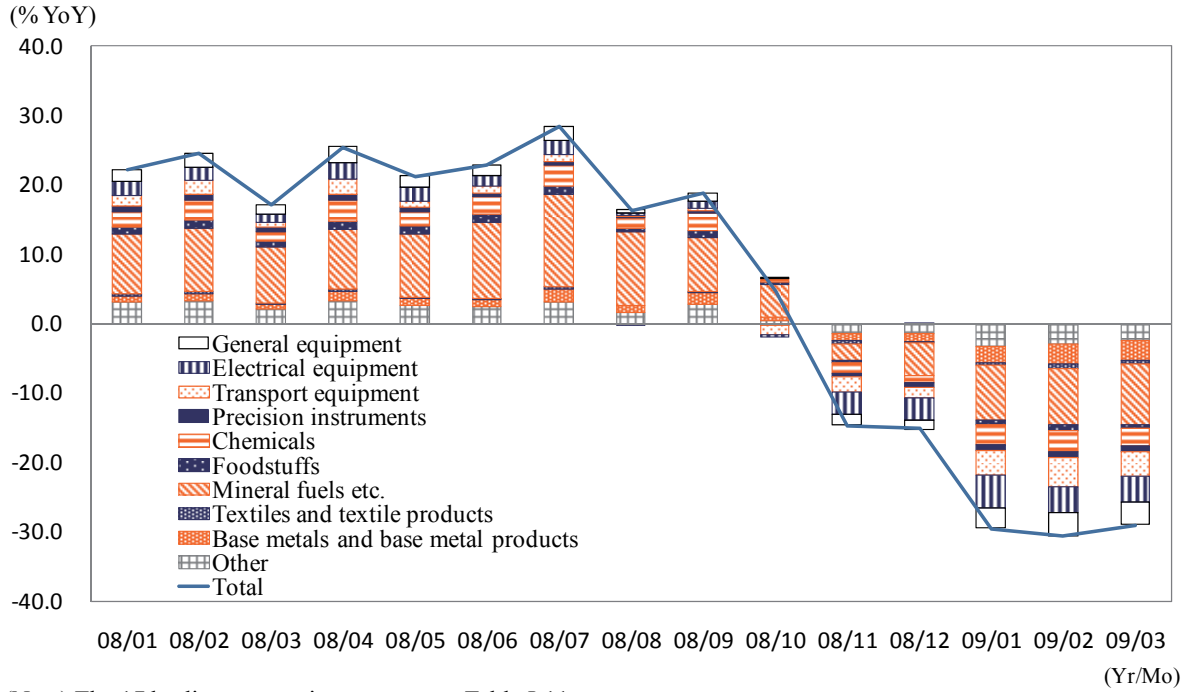
(Sources) Same as Figure I-15.

Figure I-22 Export Trends for 17 Leading Economies （January 2008-March 2009, Dollar-Denominated Values' Contribution to Increase or Decrease）



(Note) The 17 leading economies are same as Table I-11.
(Source) Same as Figure I-15.

Figure I-23 Import Trends for 17 Leading Economies



(Note) The 17 leading economies are same as Table I-11.
(Source) Same as Figure I-15.

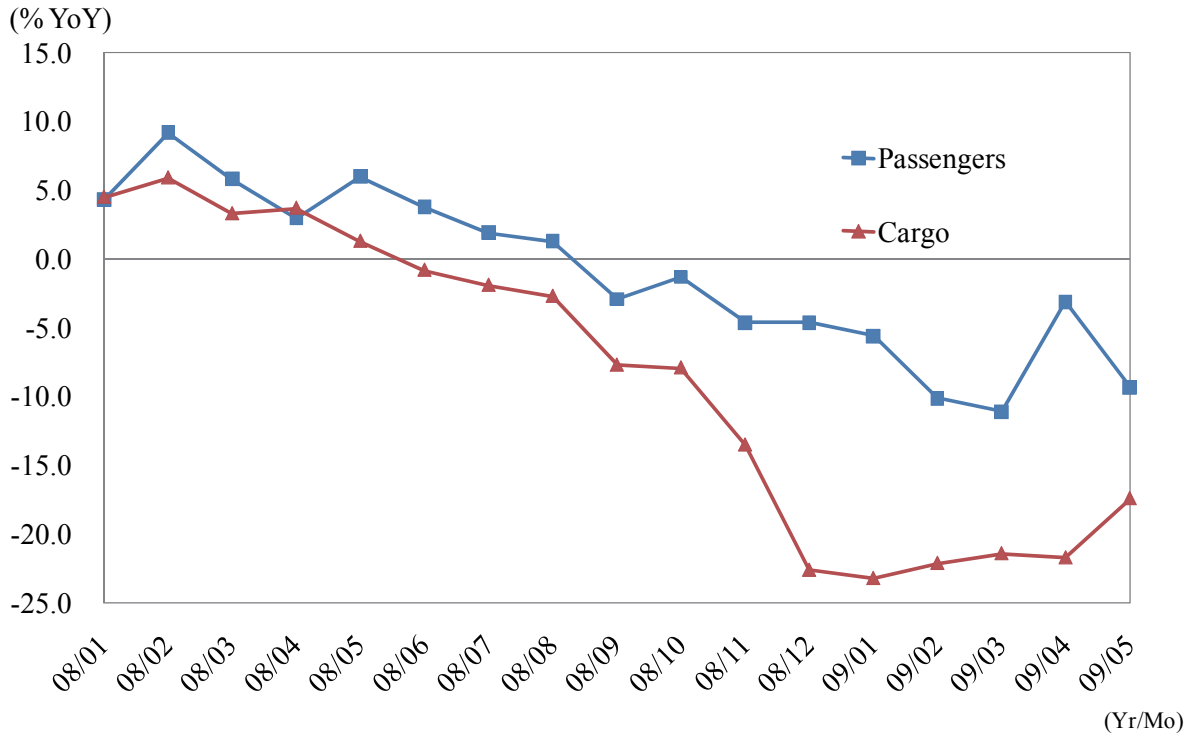
Table I-12 Trends in Growth Rate of World Trade in Services (Export Basis)

(Unit: %, US$ million)

		2007	2008		
				Value	Contribution
Total		19.2	11.3	3,730,000	11.3
	Transportation	19.7	14.7	873,000	3.3
	Travel	14.8	10.0	947,000	2.6
	Other services	21.8	10.4	1,910,000	5.4

(Source) Prepared based on WTO data.

Figure I-24 Trends in Air Transportation (January 2008 - May 2009)



(Source) Prepared based on International Air Transport Association (IATA) data.

Table I-13 Trade in Services by Country and Region (2008)

(Unit: US$ million, %)

	Exports			Imports		
	Value	Growth rate	Share	Value	Growth rate	Share
World	3,730,000	11.3	100.0	3,470,000	11.2	100.0
NAFTA	603,000	9.2	16.2	473,000	6.3	13.6
US	522,000	10.4	14.0	364,000	6.4	10.5
Europe	1,920,000	10.3	51.5	1,630,000	10.1	47.0
EU27	1,740,000	10.1	46.6	1,520,000	10.1	43.8
UK	283,000	1.8	7.6	199,000	1.0	5.7
Germany	235,000	11.4	6.3	285,000	10.9	8.2
France	153,000	5.5	4.1	137,000	6.2	3.9
Spain	143,000	11.7	3.8	108,000	9.7	3.1
Italy	123,000	11.8	3.3	132,000	11.9	3.8
Asia	837,000	12.0	22.4	858,000	12.5	24.7
Japan	144,000	13.4	3.9	166,000	11.4	4.8
ASEAN10	168,000	6.3	4.5	198,000	10.6	5.7
CIS	82,600	25.9	2.2	114,000	25.1	3.3
Russia	50,299	28.6	1.3	74,813	29.4	2.2
South and Central America	109,000	16.6	2.9	117,000	19.1	3.4
Brazil	28,817	27.4	0.8	44,373	27.9	1.3
Africa	87,800	13.1	2.4	121,000	14.2	3.5
Egypt	24,674	25.5	0.7	16,322	24.7	0.5
Middle East	93,500	16.7	2.5	158,000	12.9	4.6
Israel	23,763	12.7	0.6	19,598	11.4	0.6

(Source) Same as Table I-12.

Table I-14 FDI of major economies (net flow, based on balance of payments)

(US$ million, %)

	Inward foreign direct investment		Outward foreign direct investment	
	Value	Growth rate	Value	Growth rate
US	319,737	15.9	332,012	-16.7
Canada	44,712	-58.8	77,667	30.2
EU27	731,087	-45.9	1,188,385	-25.2
EU15	620,382	-48.7	1,133,745	-24.8
Luxembourg	80,529	-56.8	104,133	-58.5
France	97,174	-6.4	200,350	18.5
Germany	24,939	-55.8	156,463	-12.9
Netherlands	117,933	-65.3	227,436	25.1
UK	96,939	-50.6	134,019	-50.8
12 new EU members	110,705	-22.0	54,640	-32.0
Japan	24,550	10.7	130,801	78.0
East Asia	269,074	2.2	168,515	12.3
China	147,791	6.8	53,471	214.6
ASEAN5	50,659	-17.1	32,036	-29.8
India	41,077	68.3	19,354	25.2
Brazil	45,058	30.3	20,457	189.5
Russia	73,053	32.6	52,629	14.6
31 developed economies	1,183,703	-35.3	1,919,615	-15.1
Developing economies	650,904	5.4	257,019	10.5
World	1,834,607	-25.0	2,176,634	-12.7

(Notes) (1) JETRO estimates for "World" and "Developing economies" figures. (2) For countries and regions in which dollar-based data has not been released, conversion is made using IMF quarterly average exchange rates. (3) The figures for "East Asia" consist of the sum total of China, South Korea, Taiwan, Hong Kong and five ASEAN countries. (4) "Developed economies" consists of 31 countries and regions based on classification by the IMF. "Developing economies" are defined as all other countries and regions.

(Sources) Prepared based on national and regional balance of payments, BOP (IMF) and the Economic Commission for Latin America and the Caribbean (ECLAC).

Figure I-25 Global inward FDI and cross-border M&As

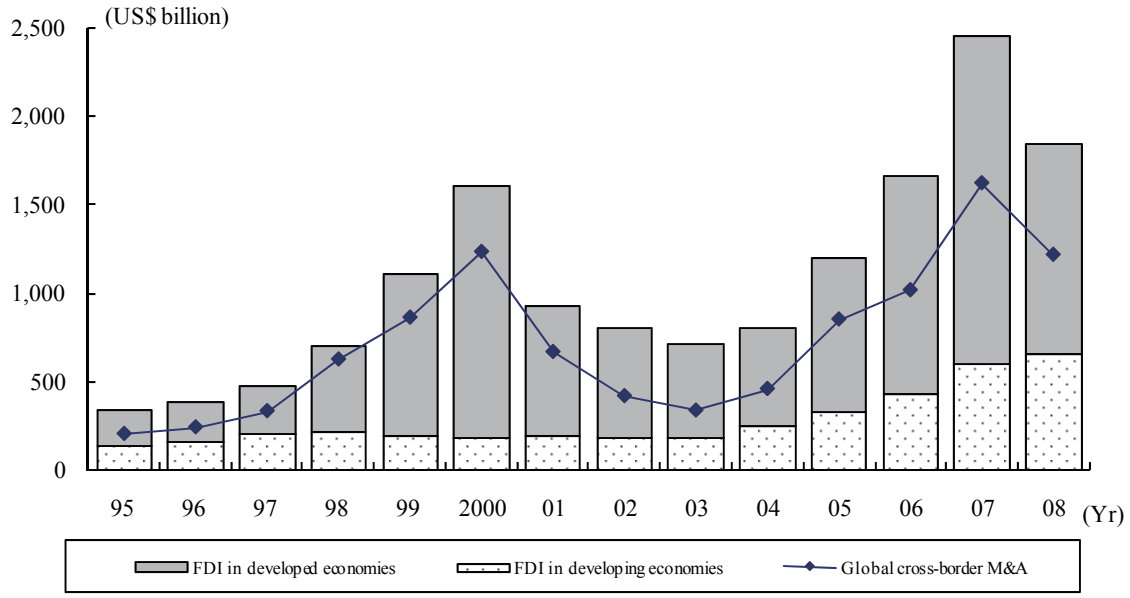


Figure I-26 Inward FDI value trends (quarterly)

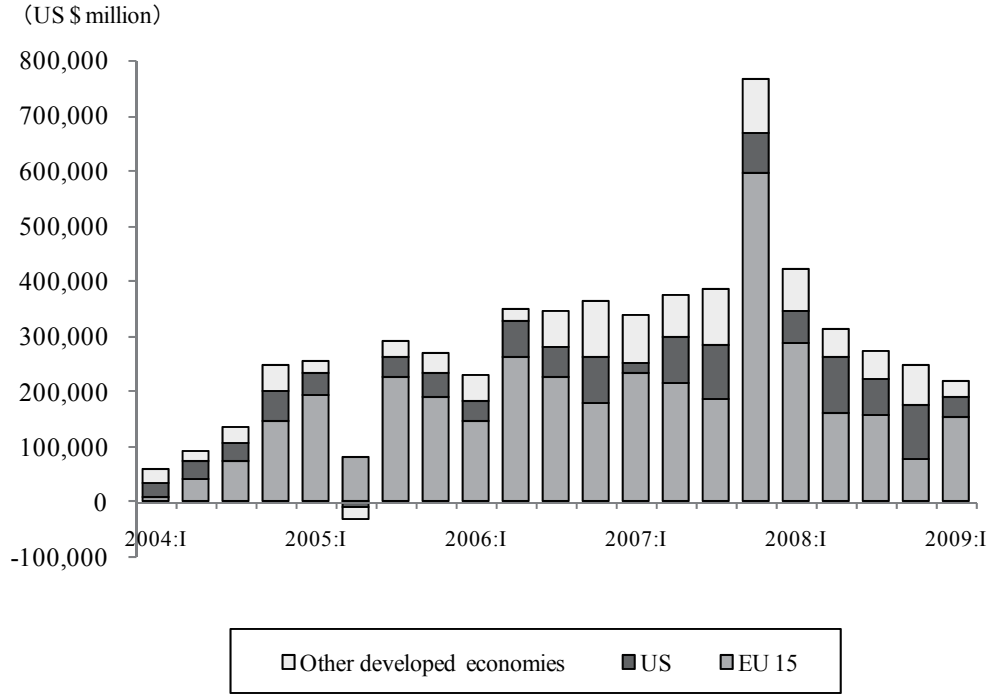


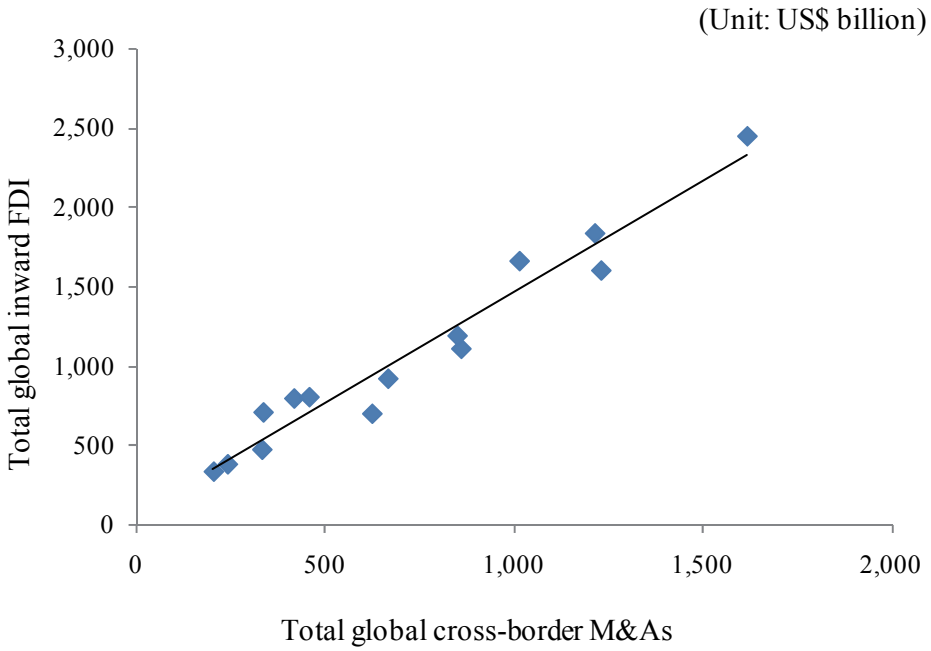
Table I-15 Top 10 Countries and Regions In the World In Terms of FDI

(Unit: US$ million, %)

	Inward FDI				Outward FDI			
	2007		2008		2007		2008	
1	Netherlands	340,093	U.S.	319,737	U.S.	398,597	U.S.	332,012
2	U.S.	275,758	China	147,791	U.K.	272,384	Netherlands	227,436
3	U.K.	196,390	Netherlands	117,933	Luxemburg	250,818	France	200,350
4	Luxemburg	186,225	France	97,174	Netherlands	181,790	Germany	156,463
5	China	138,413	U.K.	96,939	Germany	179,538	U.K.	134,019
6	Belgium	110,774	Luxemburg	80,529	France	169,062	Japan	130,801
7	Canada	108,414	Russia	73,053	Spain	138,497	Luxemburg	104,133
8	France	103,871	Spain	69,944	Belgium	93,901	Switzerland	86,295
9	Hungary	71,861	Belgium	63,064	Italy	90,778	Spain	80,070
10	Spain	68,829	Hong Kong	62,992	Japan	73,483	Canada	77,667

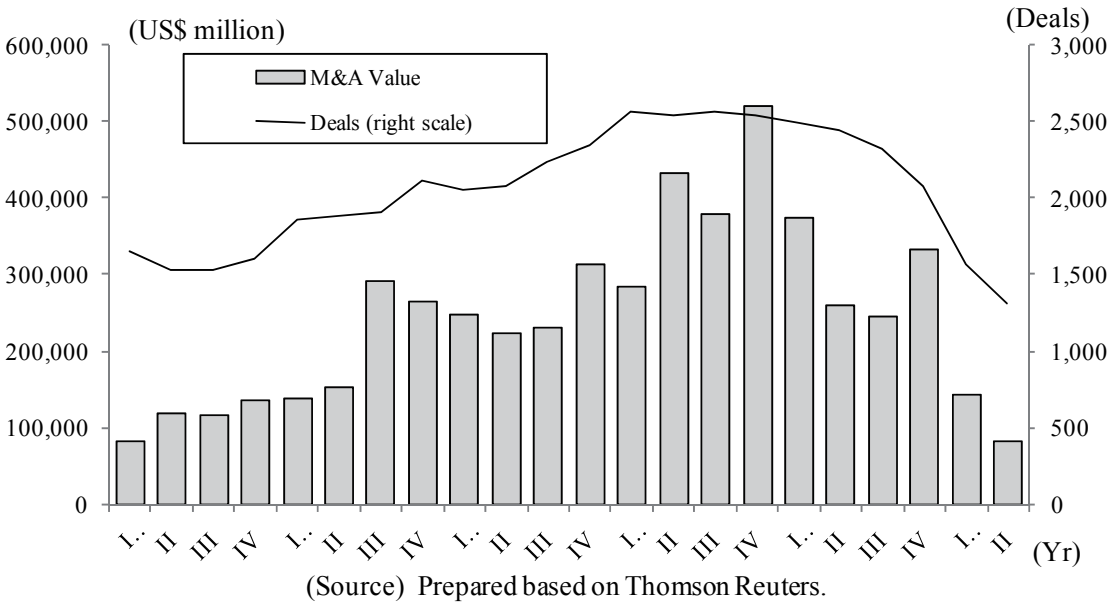
Source: Based on national and regional balance of payments statistics and BOP (IMF).

Figure I-27 Global Inward FDI and Cross-Border M&As (1995 - 2008)



Note: The direct line represents an approximate curve.
Source: Based on national and regional balance of payments statistics, BOPS (IMF), and Thomson Reuters data.

Figure I-28 Global cross-border M&A trends by quarter (2004-2Q 2009)



(Source) Prepared based on Thomson Reuters.

Table I-16 10 largest cross-border M&As (January 2008-June 2009)

2008

(US$ million)

	Acquiring company			Target company			Amount	Equity after acquisition (%)
		Nationality	Industry		Nationality	Industry		
Nov.	InBev NV	Belgium	Beverage (beer)	Anheuser-Busch Cos Inc	U.S.	Beverage (beer)	60,408	100.0
Oct.	China Unicom Ltd	China	Telecommunications	China Netcom Grp(HK)Corp Ltd	Hong Kong	Communications	32,012	100.0
Feb.	Imperial Tobacco Group PLC	U.K.	Food (cigarettes)	Altadis SA	Spain	Food (tobacco)	21,489	100.0
Nov.	Investors	Switzerland	Investment group	British American Tobacco PLC	U.K.	Food (tobacco)	19,827	27.1
Apr.	Heineken NV, Carlsberg A/S	Netherland	Beverage (beer)	Scottish & Newcastle PLC	U.K.	Beverage (beer)	18,631	100.0
Apr.	Thomson Corp	Canada	Information services	Reuters Group PLC	U.K.	Information services	18,266	100.0
Feb.	Serafina Holdings Ltd	U.S.	Finance (investment)	Intelsat Ltd	Bermuda	Information technology	16,000	76.0
Jan.	Akzo Nobel NV	Netherland	Chemical products	ICI PLC	U.K.	Chemical products	15,708	100.0
Jan.	Lafarge SA	France	Kiln, ceramics and stone	OCI Cement Group	Egypt	Kiln, ceramics and stone	15,018	100.0
Jun.	E ON AG	Germany	Electric, gas and water	Endesa Italia	Italy	Electric, gas and water	14,342	80.0

January-June 2009

	Acquiring company			Target company			Amount	Equity after acquisition (%)
		Nationality	Industry		Nationality	Industry		
Mar.	Roche Holding AG	Switzerland	Pharmaceuticals	Genentech Inc	U.S.	Pharmaceuticals	46,695	100.0
Jan.	Electricite de France SA	France	Electric, gas and water	British Energy Group PLC	U.K.	Electric, gas and water	15,400	99.6
Jun.	Enel SpA	Italy	Electric, gas and water	Endesa SA	Spain	Electric, gas and water	13,470	92.1
May	BNP Paribas SA	France	Finance	Fortis Bank SA/NV	Belgium	Finance	12,765	54.6
Feb.	Macquarie Group, etc.	Canada	Finance (investment)	Puget Energy Inc	U.S.	Electric, gas and water	6,717	100.0
Apr.	BASF SE	Germany	Chemical products	Ciba Specialty Chemicals	Switzerland	Chemical products	4,549	95.9
Mar.	Advanced Technology Investment	UAE	Finance (investment)	Advanced Micro-Mnfg Facilities	U.S.	Electronic equipment	3,600	65.8
May	ENI G&P Belgium SpA	Italy	Electric, gas and water	Distrigaz SA	Belgium	Electric, gas and water	3,174	100.0
Mar.	Aabar Investments PJSC	UAE	Finance (investment)	Daimler AG	Germany	Automobiles	2,664	9.1
Mar.	NTT DoCoMo Inc	Japan	Communications	Tata Teleservices Ltd	India	Communications	2,655	26.0

(Notes) (1) Months indicate the completion date of the transaction. (2) Nationality of the acquirer is that of its ultimate parent company. (3) The definition of M&A follows Thomson Reuters.

(4) The ranking is based on the value of a single transaction. (5) If the acquirer is a holding company with manufacturing industries as its major business category, the manufacturer's name is listed.

(Source) Prepared based on Thomson Reuters.

Table I-17 10 Largest Cross-Border M&As by SWF Investment (2008)

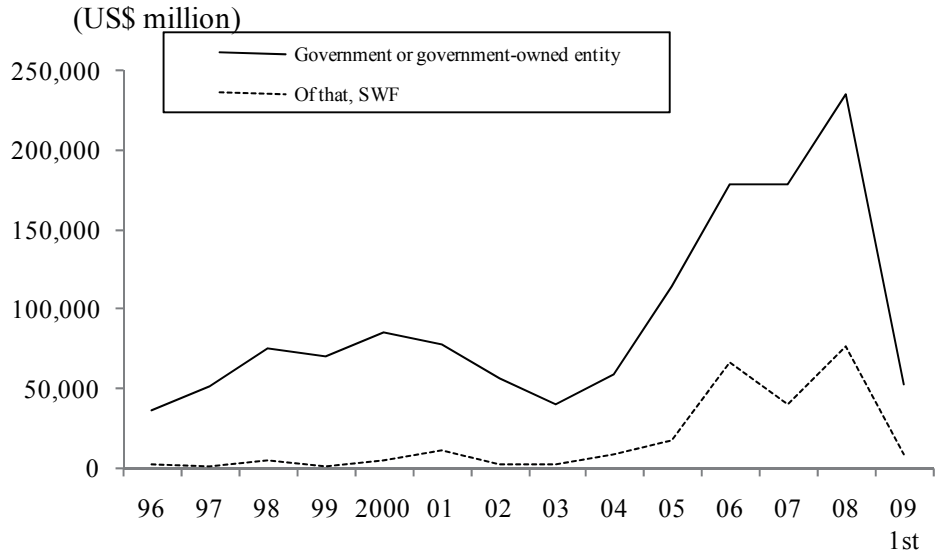
(Unit: US$ million, %)

	Acquiring company/fund		Acquired company			Amount	Equity after acquisition (%)
		Nationality		Nationality	Industry		
March	GIC	Singapore	UBS	Switzerland	Finance	9,760	9.0
June	Abu Dhabi Investment Authority	UAE	Citigroup	U.S.	Finance	7,500	4.9
Jan.	GIC	Singapore	Citigroup	U.S.	Finance	6,880	4.0
Jan.	Temasek Holdings	Singapore	Merrill Lynch	U.S.	Securities	4,400	10.7
July	Qatar Investment Authority	Qatar	Barclays	U.K.	Finance	3,483	7.7
Feb.	Dubai International Financial Centre	UAE	OMX	Sweden	Securities	3,397	98.4
Oct.	Qatar Investment Authority	Qatar	Cegelec	France	Engineering	2,964	100.0
Feb.	Korea Investment Corporation	South Korea	Merrill Lynch	U.S.	Securities	2,000	8.5
Jan.	Kuwait Investment Authority	Kuwait	Merrill Lynch	U.S.	Securities	2,000	n.a.
May	Abu Dhabi Investment Authority	UAE	RHB Capital	Malaysia	Financial services	1,205	25.0

Notes: (1) Months shown represent months of completion of transactions.
(2) The definition of SWF above is based on Thomson Reuters' definition.
(3) Acquisitions of less than 10% equity are considered investments in securities.

Source: Based on Thomson Reuters data.

Figure I-29 Trends in value of M&As involving sovereign wealth funds



(Notes) (1) SWF and government entities as defined by Thomson Reuters.
(2) Deals involving direct or indirect investment in acquirer or target.
(Source) Prepared based on Thomson Reuters.

Table I-18 Trends in Japanese Trade

(US$ million, %)

	2007	2008	2008				2009
			Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅰ
Total export value	712,735	775,918	197,147	201,800	204,395	172,575	120,861
(Growth rate)	10.1	8.9	18.5	18.1	13.8	-11.9	-38.7
Total import value	621,084	756,086	178,497	193,120	205,662	178,806	130,535
(Growth rate)	7.2	21.7	23.2	29.0	33.7	3.6	-26.9
Trade balance	91,651	19,831	18,649	8,679	-1,266	-6,231	-9,673
(Difference from previous year [quarter])	23,654	-71,820	-2,822	-12,423	-27,069	-29,506	-28,322
Export volume index	112.9	111.1	115.7	114.8	116.4	97.4	66.6
(Growth rate)	4.8	-1.6	9.1	4.0	2.3	-19.8	-42.5
Import volume index	103.6	103.0	103.2	103.7	103.5	101.6	83.7
(Growth rate)	-0.2	-0.6	1.4	2.2	1.2	-6.7	-18.9
Crude oil import price (US$/barrel)	69.4	101.9	93.1	109.8	129.4	76.3	43.6
(Growth rate)	8.6	46.8	61.9	69.7	82.4	-8.4	-53.1
Ratio of crude oil imports	16.8	20.5	21.2	20.9	23.4	16.0	11.7
Ratio of manufactured imports	56.3	50.1	51.7	50.2	47.1	52.0	56.0
Quarterly average exchange rate (yen/dollar)	117.8	103.4	105.2	104.5	107.6	96.1	93.6
(Rate of increase)	-1.2	13.9	13.5	15.5	9.4	17.6	12.4

(Notes) (1) 2005 is the base year for volume indices.
(2) The exchange rate is the yearly average of the center value of the inter bank rate during the year.
(3) Quarterly growth rates are year-on-year comparisons.

(Sources) Prepared based on "Trade Statistics" (Ministry of Finance), "National Economic Accounting" (Cabinet Office) and "Foreign Exchange Quotations" (Bank of Japan).

Table I-19 Trends In Japan's Current Account

(Unit: US$ million, %)

	2007	2008	Change
Current account	210,481	157,157	-53,324
Goods and services account	83,479	17,780	-65,699
Trade balance	104,654	38,593	-66,061
Exports	677,009	740,613	63,604
Imports	572,355	702,020	129,665
Services account	-21,175	-20,813	362
Income account	138,555	152,470	13,915
Current transfers	-11,553	-13,093	-1,540
Current account/GDP	4.8 %	3.2 %	-

(Note)Exchange rates are based on the rules in the ministerial ordinance concerning reports on foreign exchange transaction. Exchange rates for exports and imports are calculated by JETRO based on the foreign exchange rate provided by regulation on Ministry of Finance.
(Sources) Based on "Balance of Payments Statistics" (Ministry of Finance, Bank of Japan) and "National Economic Accounting" (Cabinet Office).

Table I-20 Trends in Japanese trade by country/region

(US$ million, %)

			2007	2008	2008				2009
					Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅰ
World	Export	Value	712,735	775,918	197,147	201,800	204,395	172,575	120,861
		Growth rate	10.1	8.9	18.5	18.1	13.8	-11.9	-38.7
	Import	Value	621,084	756,086	178,497	193,120	205,662	178,806	130,535
		Growth rate	7.2	21.7	23.2	29.0	33.8	3.6	-26.9
	Export volume growth		4.8	-1.6	9.1	4.0	2.3	-19.8	-42.5
	Import volume growth		-0.2	-0.6	1.4	2.2	1.2	-6.7	-18.9
US	Export	Value	143,383	136,200	36,677	35,094	33,648	30,781	19,379
		Growth rate	-1.6	-5.0	4.0	2.8	-5.8	-19.5	-47.2
	Import	Value	70,836	77,018	18,895	20,589	19,419	18,115	14,717
		Growth rate	4.1	8.7	10.4	14.3	15.0	-3.8	-22.1
	Export volume growth		-7.3	-10.9	-1.6	-3.3	-12.1	-25.6	-51.3
	Import volume growth		2.0	-5.6	-5.6	-2.2	1.4	-15.7	-23.3
EU27	Export	Value	105,270	109,383	30,431	28,411	27,473	23,067	16,552
		Growth rate	11.8	3.9	19.5	11.7	6.9	-19.5	-45.6
	Import	Value	65,009	69,915	17,772	18,062	17,506	16,575	14,690
		Growth rate	8.2	7.6	13.1	15.0	6.8	-3.6	-17.3
	Export volume growth		-3.0	-4.2	5.9	-1.8	-1.5	-18.8	-46.0
	Import volume growth		-0.2	-4.1	0.7	-0.7	-5.5	-10.5	-23.4
East Asia	Export	Value	327,726	363,134	88,951	96,394	98,445	79,345	57,417
		Growth rate	10.8	10.8	18.8	20.9	18.0	-11.5	-35.5
	Import	Value	253,976	286,898	68,132	72,528	74,364	71,874	53,690
		Growth rate	6.0	13.0	13.0	16.4	18.8	4.5	-21.2
China	Export	Value	109,060	124,035	29,036	33,294	33,790	27,917	20,609
		Growth rate	17.5	13.7	19.8	27.6	20.1	-8.7	-29.0
	Import	Value	127,644	142,337	32,762	35,731	36,730	37,114	28,537
		Growth rate	7.7	11.5	9.8	13.7	16.3	6.6	-12.9
	Export volume growth		9.0	7.6	24.3	16.1	9.7	-14.5	-33.5
	Import volume growth		0.5	-1.1	0.6	0.2	0.8	-5.7	-18.6
ASEAN 10	Export	Value	86,990	102,799	24,713	26,597	27,736	23,754	15,435
		Growth rate	13.9	18.2	27.1	26.8	22.9	-1.1	-37.5
	Import	Value	86,898	106,118	25,722	26,456	28,067	25,873	19,120
		Growth rate	8.6	22.1	25.6	26.0	28.6	9.6	-25.7
	Export volume growth		11.1	8.4	21.5	12.8	12.3	-9.8	-42.5
	Import volume growth		0.4	1.3	8.0	3.4	1.6	-7.0	-23.0
Korea	Export	Value	54,199	58,985	15,164	15,553	16,192	12,076	10,098
		Growth rate	7.7	8.8	15.3	17.1	24.5	-18.1	-33.4
	Import	Value	27,252	29,248	7,369	7,522	7,372	6,985	4,978
		Growth rate	-0.3	7.3	13.5	10.7	15.8	-8.1	-32.5
Taiwan	Export	Value	44,780	45,708	12,067	12,426	12,189	9,026	6,713
		Growth rate	1.4	2.1	18.6	10.6	5.4	-23.5	-44.4
	Import	Value	19,809	21,637	5,242	5,585	5,610	5,200	3,866
		Growth rate	-2.6	9.2	2.6	18.2	16.2	1.1	-26.3
Hong Kong	Export	Value	38,818	39,988	10,011	10,739	10,766	8,473	5,861
		Growth rate	6.4	3.0	11.0	12.7	10.1	-19.2	-41.5
	Import	Value	1,448	1,545	421	376	378	369	274
		Growth rate	-4.8	6.7	10.3	20.4	12.0	-11.3	-35.0
Middle East	Export	Value	26,184	33,722	7,886	7,497	9,101	9,239	5,400
		Growth rate	36.4	28.8	31.8	29.8	42.9	14.7	-31.5
	Import	Value	113,824	165,445	39,956	42,032	51,115	32,343	18,874
		Growth rate	4.2	45.4	59.4	65.8	81.8	-8.4	-52.8
Central and South America	Export	Value	35,063	40,684	10,358	9,711	10,896	9,719	8,377
		Growth rate	14.7	16.0	22.9	18.1	22.5	2.1	-19.1
	Import	Value	24,117	27,448	6,500	6,938	7,205	6,805	4,829
		Growth rate	18.2	13.8	20.5	19.2	14.1	3.3	-25.7

(Note) East Asia here refers to the sum total of China, NIEs (South Korea, Taiwan, Hong Kong, Singapore), and ASEAN 4 (Thailand, Malaysia, Indonesia, the Philippines).

(Source) Prepared based on "Trade Statistics" (Ministry of Finance).

Figure I-30 Japan's Quarterly Export Trends (Contributions by Country and Region)

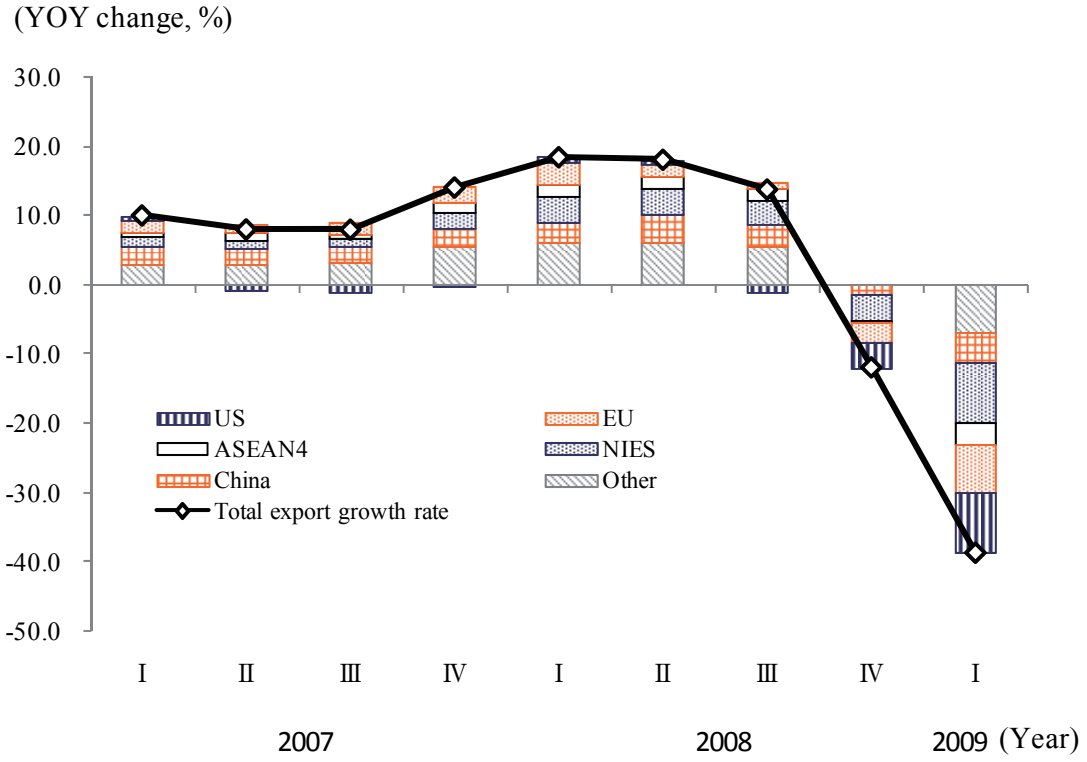


Table I-21 Japanese exports by product (2008)

(US$ million, %)

	World		US		EU27		China		ASEAN10	
	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate
Total value	775,918	8.9	136,200	-5.0	109,383	3.9	124,035	13.7	102,799	18.2
Machinery and equipment	521,411	7.1	109,431	-5.5	83,128	2.4	69,625	12.9	59,058	13.4
General equipment	151,482	8.8	28,455	-1.5	28,022	2.0	23,447	15.4	20,972	18.2
Mining and construction equipment	13,093	14.8	1,650	-15.0	2,125	-15.1	963	47.5	1,641	47.6
Machine tools	8,447	11.2	1,990	17.7	1,874	3.3	1,564	9.7	983	21.1
Electrical equipment	138,650	2.7	20,082	-2.4	20,845	4.2	30,042	6.0	22,367	2.2
Transport equipment	195,966	9.4	54,095	-9.3	27,428	-0.8	9,240	30.9	12,290	28.3
Automobiles	131,301	8.5	40,930	-9.3	17,920	-3.2	4,075	47.8	4,443	25.7
Passenger vehicles	115,439	6.7	40,516	-8.6	17,137	-3.7	3,752	51.9	2,429	29.3
Motorcycles	5,797	-7.7	1,974	-9.4	2,315	-13.5	2	57.2	139	15.7
Automotive parts	33,176	4.2	8,346	-9.8	5,657	4.9	5,153	19.8	4,912	25.8
Precision instruments	35,313	5.3	6,800	1.3	6,833	12.8	6,896	15.5	3,429	20.4
Chemicals	88,224	6.6	10,749	5.0	11,310	6.7	17,740	3.5	10,805	12.2
Base metals and base metal products	71,518	19.6	4,933	7.5	3,388	14.6	16,676	20.1	16,650	32.1
Steel	53,049	25.7	3,335	12.8	1,948	18.3	11,062	25.5	12,784	40.7
Primary steel products	39,262	30.4	1,215	18.3	834	20.1	8,708	22.4	9,692	50.5
Steel products	13,787	14.1	2,120	9.8	1,115	17.0	2,354	38.4	3,092	16.7

(Note) See Reference Materials/Supplement Statistics: Annotation 1 at the end of this White Paper for the definitions of products.

(Source) Prepared based on "Trade Statistics" (Ministry of Finance).

Table I-22 Japan's Auto Export Trends (Volume basis)

(No. of vehicles, %)

	2005	2006	2007	2008
Total exports	5,053,061	5,966,672	6,549,940	6,727,091
(YOY growth rate)	1.9	18.1	9.8	2.7
US	1,662,939	2,261,552	2,215,452	2,068,062
(YOY growth rate)	6.6	36.0	-2.0	-6.7
Europe	1,178,197	1,305,861	1,497,800	1,589,054
(YOY growth rate)	-7.6	10.8	14.7	6.1
Asia	420,067	381,561	440,920	525,081
(YOY growth rate)	-17.8	-9.2	15.6	19.1
Reference: Vehicle production by Japanese automakers in US	3,383,277	3,281,073	3,324,326	2,893,466
(YOY growth rate)	7.6	-3.0	1.3	-13.0

(Note) Only four-wheel vehicles included above.

(Source) Based on Japan Automobile Manufacturers Association data.

Table I-23 Japan's Imports By Product (2008)

(Unit: US$ million, %)

	World		U.S.		EU27		China		ASEAN10	
	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate
Total value	756,086	21.7	77,018	8.7	69,915	7.6	142,337	11.5	106,118	22.1
Machinery and equipment	183,414	5.3	32,111	-4.2	27,963	2.7	60,922	14.5	27,820	6.5
General equipment	59,058	6.2	10,098	-7.1	9,484	5.6	24,115	13.6	8,001	5.0
Electrical equipment	77,715	5.5	8,325	-7.6	4,707	9.4	29,343	14.7	16,118	4.1
Transport equipment	22,580	3.7	6,761	2.9	8,478	-6.2	2,919	24.2	1,623	31.6
Automobiles	7,219	-8.4	615	8.6	5,494	-10.6	37	55.3	160	126.1
Passenger vehicles	6,820	-11.3	538	5.6	5,333	-11.6	18	0.1	30	-52.5
Motorcycles	714	21.9	204	26.3	105	7.4	159	24.4	46	215.0
Automotive parts	6,851	17.6	750	19.2	2,118	15.9	1,813	21.7	1,290	22.9
Precision instruments	24,061	3.6	6,927	-2.0	5,294	8.2	4,545	12.1	2,078	15.9
Chemicals	65,469	20.3	11,615	12.1	18,872	14.7	11,899	23.5	9,000	27.7
Foodstuffs	60,456	16.9	17,519	29.2	7,317	18.8	7,051	-11.9	7,442	23.9
Iron ore	13,021	47.5	0	n.a.	0	1619.8	0	60.2	453	-1.1
Mineral fuels	265,710	54.4	1,802	91.8	668	79.1	4,104	59.2	39,343	64.0
Coal	29,301	97.9	468	41984.8	0	395.7	2,151	78.0	4,180	88.8
LNG	45,163	68.8	292	5.0	0	n.a.	0	n.a.	21,352	59.5
Petroleum and petroleum products	178,563	46.9	1,021	59.0	653	81.6	1,074	35.4	13,714	65.6
Crude oil	154,447	48.3	0	n.a.	0	n.a.	388	239.0	8,084	65.7
Base metals and base metal products	41,014	8.4	2,634	5.3	2,799	10.7	9,689	21.4	5,341	-9.3
Steel	17,591	26.1	1,016	7.1	865	2.3	5,857	32.6	931	14.3
Primary steel products	11,344	37.1	464	23.0	392	-3.5	2,580	66.6	246	13.1
Steel products	6,247	10.0	552	-3.4	473	7.6	3,276	14.2	685	14.8

(Note) See Reference Materials/Supplement Statistics: Annotation 1 at the end of this White Paper for the definitions of products.

(Source) Based on "Trade Statistics" (Ministry of Finance).

Figure I-31 Import Factor Analysis and Trends in Crude and Raw Oil Import Prices

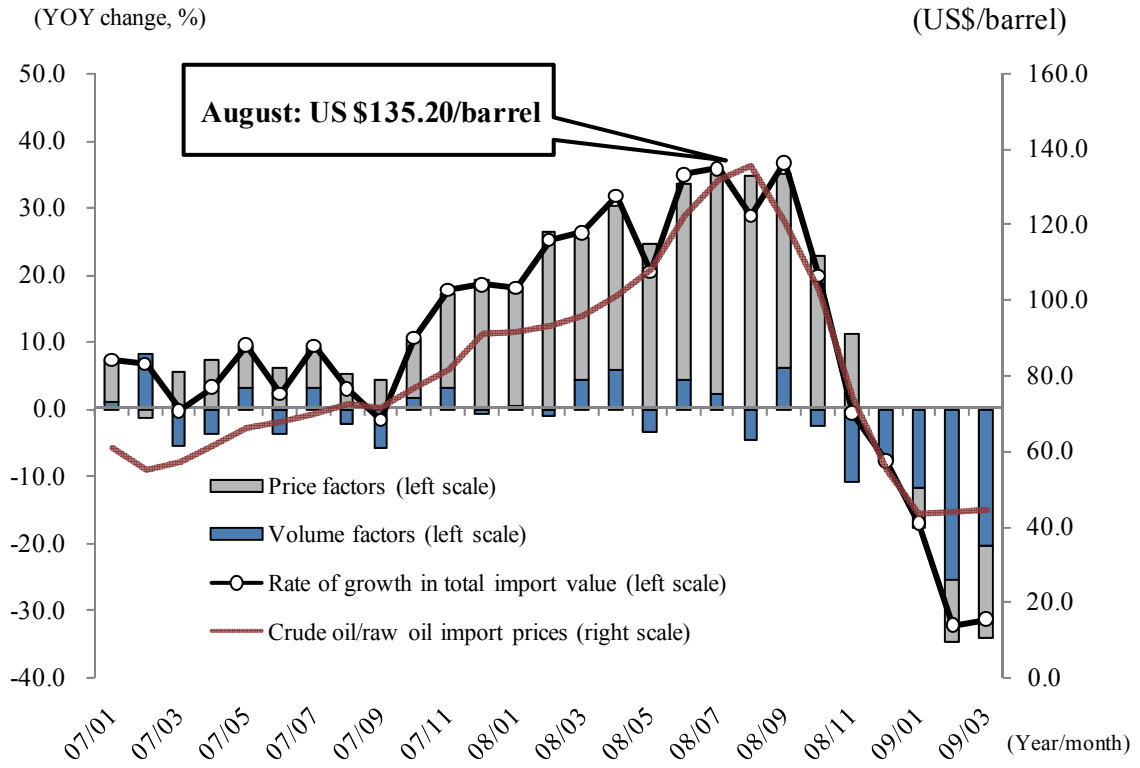


Table I-24 Japan's Imports and Exports of IT-Related Products (2008)

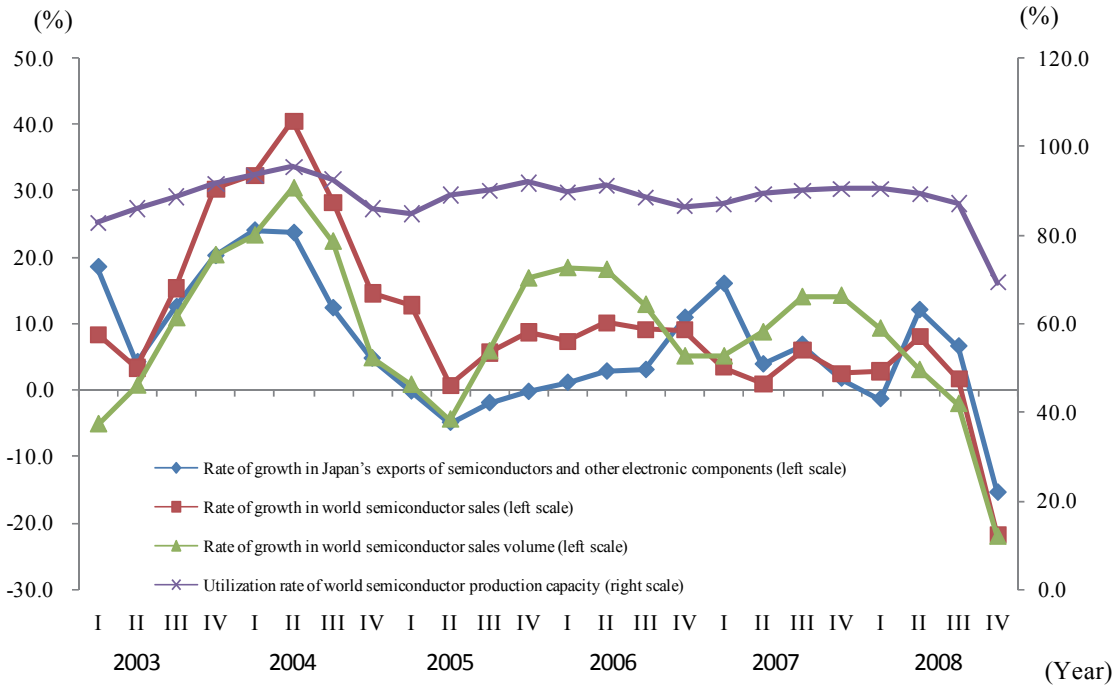
(Unit: US$ million, %)

	Exports			Imports		
	2007	2008		2007	2008	
	Value	Value	Growth rate	Value	Value	Growth rate
Computers and peripheral equipment (total)	9,015	7,768	-13.8	19,441	20,319	4.5
Multifunctional digital equipment	1,166	980	-16.0	1,356	1,591	17.3
Computers and peripherals	4,173	3,601	-13.7	12,819	14,074	9.8
Parts of computer and peripherals	3,676	3,187	-13.3	5,265	4,654	-11.6
Office equipment	114	114	-0.7	250	267	6.7
Telecommunication equipment	8,441	8,660	2.6	9,352	10,756	15.0
Semiconductors and electronic components	44,526	44,524	0.0	24,130	23,803	-1.4
Electron tubes and semiconductors	11,159	11,680	4.7	2,781	3,150	13.3
Integrated circuits	33,367	32,844	-1.6	21,349	20,653	-3.3
Other electronic components	34,881	34,615	-0.8	16,523	17,686	7.0
Flat-panel displays	8,939	8,904	-0.4	4,262	4,582	7.5
Video equipment	15,771	16,164	2.5	5,222	5,752	10.1
Digital cameras	11,779	12,354	4.9	1,602	1,638	2.2
Reception apparatus for television	995	799	-19.7	910	1,150	26.3
Audio equipment	155	144	-7.3	666	432	-35.1
Portable audio players	121	115	-4.6	533	323	-39.3
Measuring and testing equipment	17,171	17,266	0.6	9,165	8,833	-3.6
Machines and apparatus for the manufacture of semiconductor devices	12,909	13,742	6.5	2,920	2,498	-14.4
IT parts	85,013	84,721	-0.3	46,449	46,777	0.7
Finished IT products	57,970	58,275	0.5	41,220	43,571	5.7
Total IT equipment	142,983	142,997	0.0	87,669	90,348	3.1

(Notes)See Reference Materials/Supplement Statistics: Annotation 1 at the end of this White Paper for the definitions of product categories.

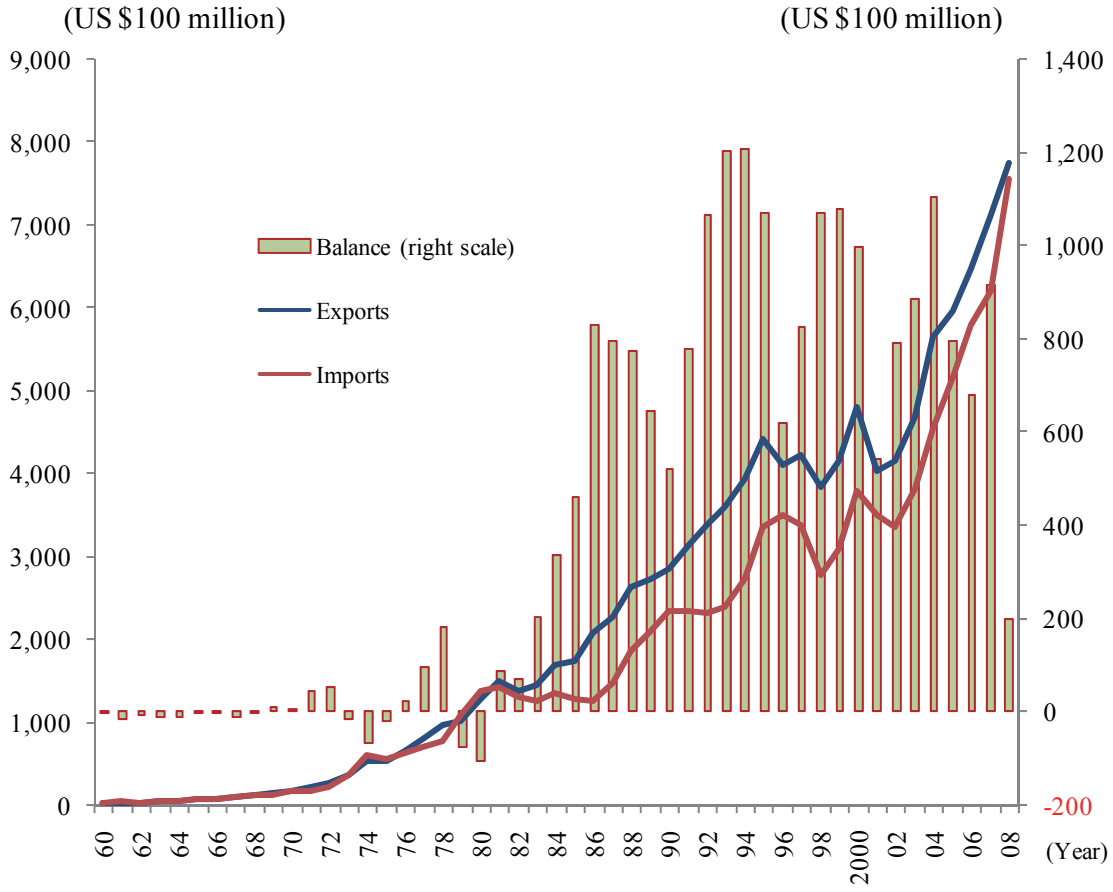
(Source) Based on "Trade Statistics" (Ministry of Finance).

Figure I-32 Trends In Japan's Semiconductor Exports and Related Indices



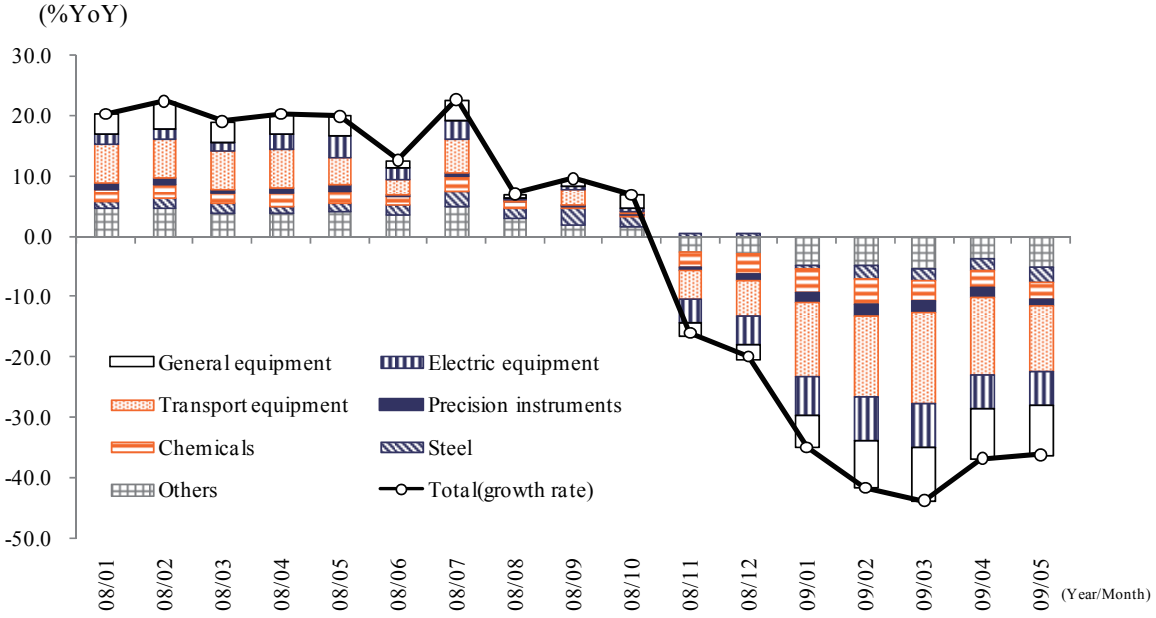
(Notes)
(1) All growth rates above are YOY growth rates.
(2) Rates of growth in world semiconductor sales volume above are calculated as follows: rate of growth in sales - average rate of growth in prices.
(Sources) Based on "Trade Statistics" (Ministry of Finance), "World Semiconductor Trade Statistics", and "Semiconductor International Capacity Statistics".

Figure I-33 Long-Term Trends In Japan's Balance of Trade



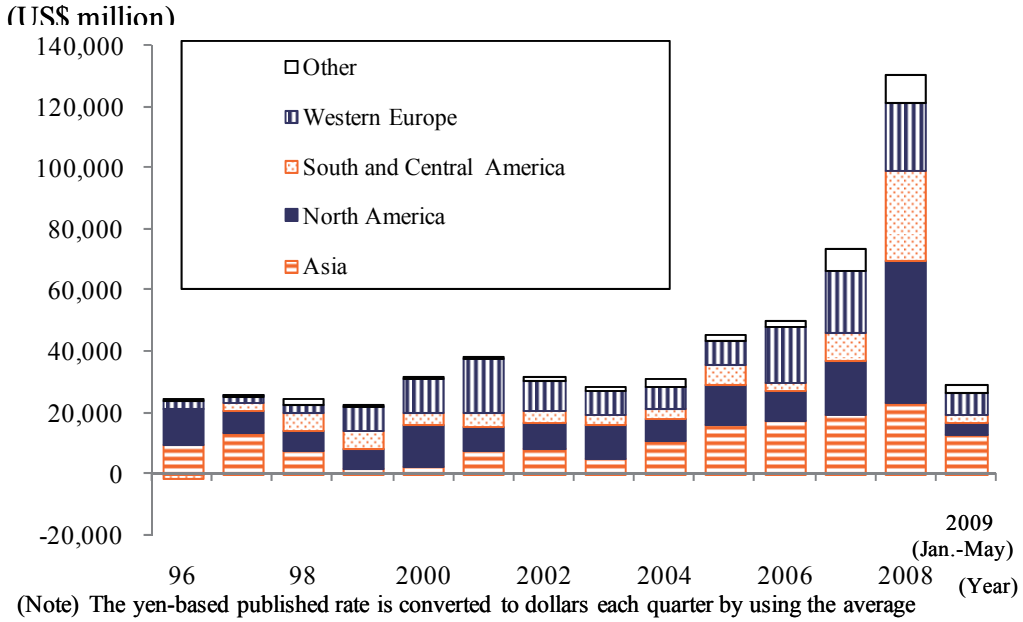
(Source) Based on "Trade Statistics" (Ministry of Finance).

Figure I-34 Japan's monthly exports(contribution by commodity)



(Source) Prepared based on "Trade Statistics"(Ministry of Finance).

Figure I-35 Japan's outward FDI (net) by region



(Note) The yen-based published rate is converted to dollars each quarter by using the average quarterly Bank of Japan inter bank rate and then the annual sum is calculated.
(Source) Prepared based on "Balance of Payments Statistics" (Ministry of Finance and Bank of

Figure I-36 Trends in number of Japanese M&As targeting foreign firms

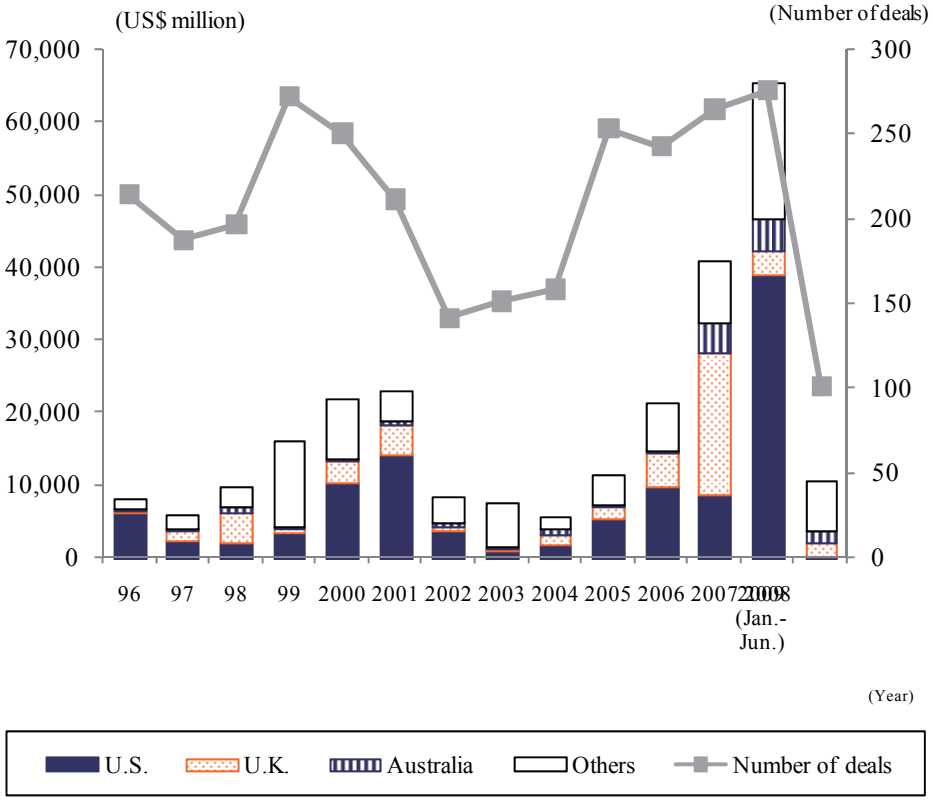


Table I-25 Japan's 10 Largest Overseas M&As (2008 - June 2009)

Month completed	Acquiring company	Industry	Acquired company	Nationality	Industry	Amount (US $million)	Equity after acquisition (%)
May 2008	Takeda Pharmaceutical Co. Ltd.	Pharmaceuticals	Millennium Pharmaceuticals	U.S.	Pharmaceuticals	8,128	100.0
Oct. 2008	Mitsubishi UFJ Financial Group, Inc.	Finance	Morgan Stanley	U.S.	Finance	7,839	21.9
Dec. 2008	Tokio Marine Holdings, Inc.	Insurance	Philadelphia Consolidated	U.S.	Insurance	4,692	100.0
Nov. 2008	Bank of Tokyo-Mitsubishi UFJ, Ltd.	Finance	UnionBanCal	U.S.	Finance	3,707	100.0
Jan. 2008	Eisai Co., Ltd.	Pharmaceuticals	MGI Pharma	U.S.	Pharmaceuticals	3,655	100.0
Oct. 2008	Daiichi Sankyo Co., Ltd.	Pharmaceuticals	Ranbaxy Laboratories	India	Pharmaceuticals	3,442	63.2
Dec. 2008	Japanese-South Korean consortium (see Notes)	-	Namisa	Brazil	Mining	3,120	40.0
Sept. 2008	Marubeni, Kansai Electric Power, and others	-	Senoko Power	Singapore	Electric power service	2,763	100.0
March 2009	NTT DoCoMo, Inc.	Telecommunications	Tata Teleservices	India	Telecommunications	2,655	26.0
Sept. 2008	Mitsubishi Corp.	Trading company	New Hope-New Saraji Project	Australia	Mining	2,384	100.0

Notes: (1) Where the acquiring company is a holding company or a group of investors, major company names are shown.
(2) The ranking above is based on the value of each single transaction.
(3) The Japanese-South Korean consortium consists of Itochu Corp., JFE Steel, Nippon Steel, Sumitomo Metal Industries, Kobe Steel, Nisshin Steel, and South Korea's POSCO.

Source: Based on Thomson Reuters data.

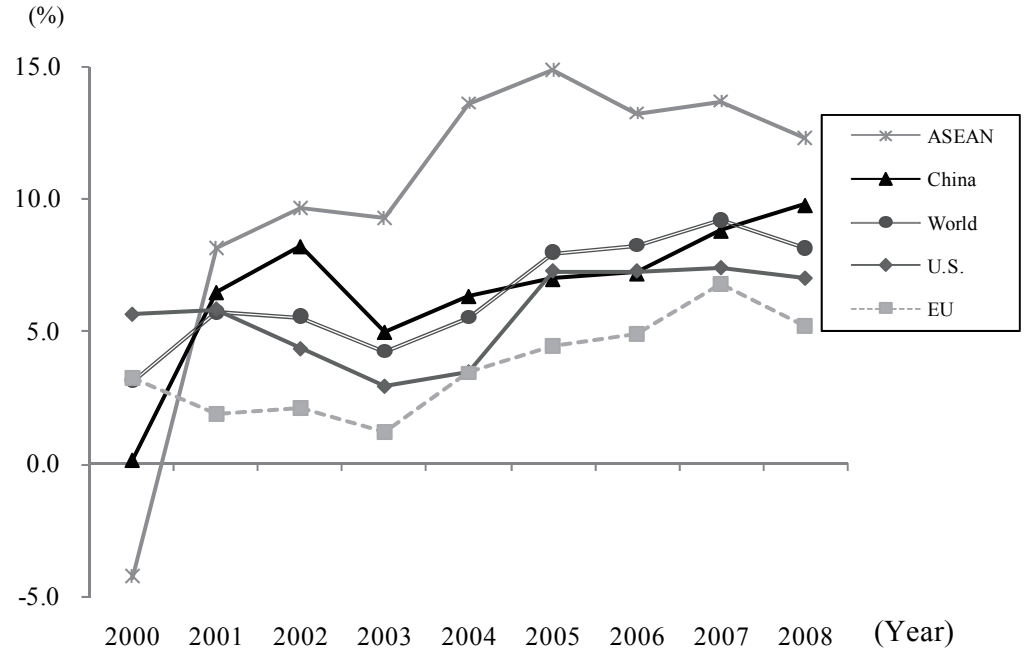
Table I-26 Active M&A industries and recent Japanese M&A deals

Industry	Company name	Summary
Pharmaceuticals	Takeda Pharmaceutical Co	Acquired Millennium Pharmaceuticals (US) for $8.1 billion with an aim to leverage Millennium's expertise in cancer R&D to strengthen its drug-development ability.
	Daiichi Sankyo	Purchased Ranbaxy Laboratories (India) for $5 billion in order to expand its sales network and marketing activities in developing countries, and to diversify into the promising field of generic drugs.
	Shionogi & Co	Acquired Sciele Pharma (US) for $1.2 billion in an attempt to beef up its sales structure in the US market and augment its position in critical fields such as cardiovascular health.
Food	Kirin Holdings	Concentrated resources on M&As in Asia, including the purchase of $1.2 billion of San Miguel (Philippines) stock in order to establish a foothold for production and sales in the Asia-Oceania market, and the takeover of Lion Nathan (Australia) as a wholly-owned subsidiary (underway, approximately $2.3 billion).
	Suntory	Bought Frucor Beverage (New Zealand) for $800 million in order to strengthen its beverage operations in the Oceania market and expand its product lineup.
Finance and Insurance	Mitsubishi UFJ Financial Group	Purchased over 20 percent of Morgan Stanley's (US) voting shares for $7.8 billion to pursue a strategic alliance in the investment banking sector. Turned Union BanCal Corp (US) into a wholly-owned subsidiary for $3.7 billion in order to enhance its presence in the US financial market.
	Tokio Marine Holdings, Inc	Paid $4.7 billion for property and casualty insurance company Philadelphia Consolidated (US) and $900 million for property insurer Kiln (UK) with an eye toward strengthening its revenue base.
Resources	Mitsubishi Corp	Took a 50 percent stake in a metallurgical-coal project in Queensland (Australia) for $2.4 billion.
	Marubeni	Acquired a 30 percent stake in a copper mining project run by Antofagasta (Chile) for $1.3 billion.
	Japanese-Korean consortium (See note below)	Obtained a 40 percent stake in CSN's (Brazil) iron-ore manufacturing and sales subsidiary, Namisa, through an international competitive bidding process, for $3.1 billion.

(Note) Itochu, JFE Steel, Nippon Steel, Sumitomo Metals, Kobe Steel, Nisshin Steel and POSCO (South Korea)

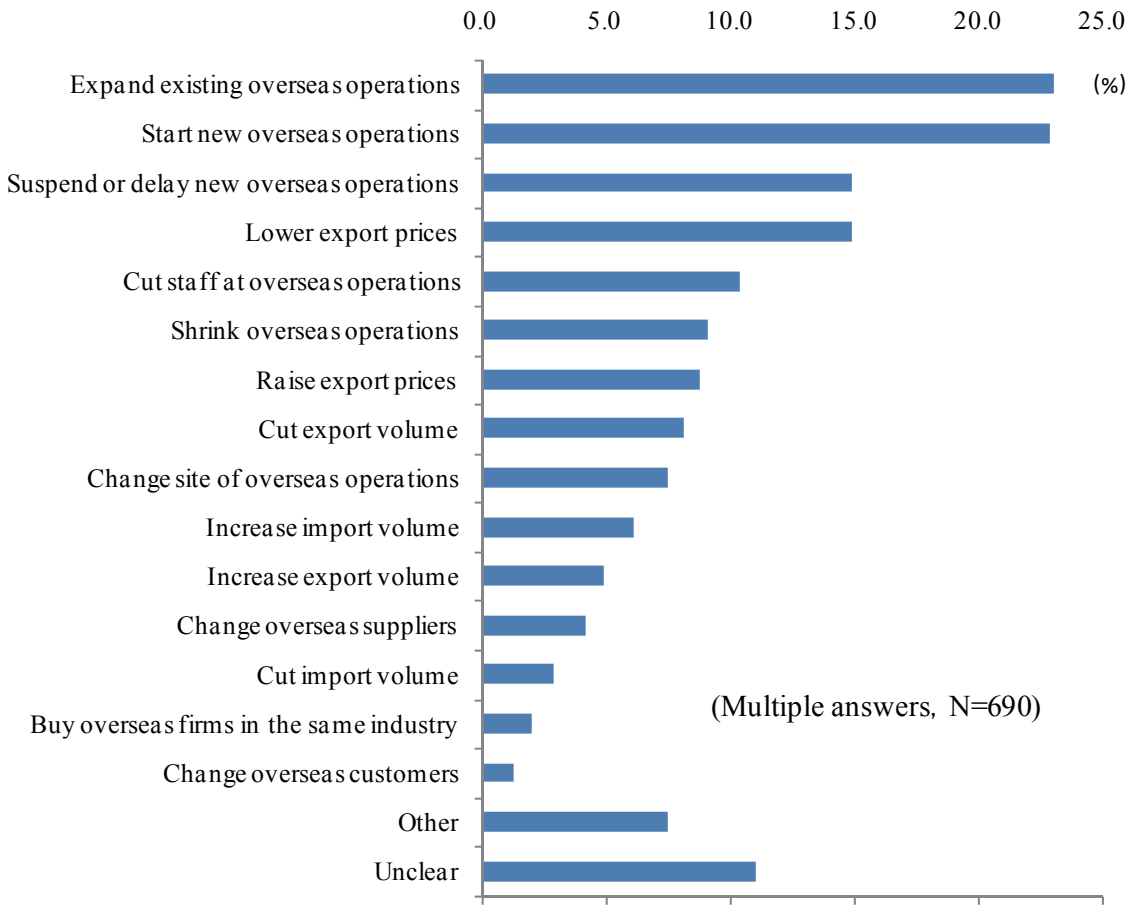
(Sources) Prepared on the bases of companies' press releases and Thomson Reuters.

Figure I-37 Rates of Return on Japan's outward FDI, By Major Country and Region



Notes: The rate of return on outward FDI is calculated as follows: FDI earnings in the term/average of outward FDI balances at the start and the end of the term
Source: Based on *Balance of Payments Statistics* (Ministry of Finance and Bank of Japan).

Figure I-38 Steps taken by Japanese companies to deal with the effect of the financial crisis on their overseas operations



(Source) "Survey on International Operations of Japanese Firms" by JETRO (2009).

Column Table I-1 Overseas sales and profit among listed Japanese companies

(%)

Fiscal year (number of companies)		Share of sales by region					
		Domestic	Overseas	Americas	Europe	Asia and Oceania	Other
1997	(582)	71.4	28.6	11.3	5.4	5.8	6.1
1998	(593)	71.1	28.9	13.4	6.0	4.9	4.6
1999	(643)	72.5	27.5	12.4	5.4	5.5	4.2
2000	(668)	71.9	28.1	12.6	5.2	6.4	3.9
2001	(715)	69.7	30.3	13.7	5.5	6.7	4.4
2002	(728)	68.0	32.0	13.7	6.0	7.8	4.6
2003	(738)	67.9	32.1	12.9	6.1	8.2	4.9
2004	(774)	67.3	32.7	12.2	6.4	8.8	5.3
2005	(804)	66.1	33.9	12.5	6.3	10.1	5.0
2006	(832)	66.2	33.8	12.6	6.9	10.3	4.1
2007	(866)	63.1	36.9	13.0	8.5	12.0	3.5
2008	(890)	63.8	36.2	11.0	7.0	14.8	3.4

Fiscal year (Number of companies)		Operating profit share by region (%)					
		Domestic	Overseas	Americas	Europe	Asia and Oceania	Other
1997	(582)	76.6	23.4	9.8	3.4	4.8	5.3
1998	(593)	73.4	26.6	13.8	4.8	4.4	3.6
1999	(643)	75.0	25.0	14.1	2.1	5.0	3.7
2000	(668)	79.9	20.1	10.4	0.7	6.0	3.0
2001	(715)	76.0	24.0	12.4	0.6	6.7	4.2
2002	(728)	72.9	27.1	13.0	2.8	7.2	4.1
2003	(738)	73.3	26.7	11.1	4.3	7.5	3.7
2004	(774)	71.8	28.2	10.9	4.7	8.6	4.0
2005	(804)	70.8	29.2	10.8	4.7	10.0	3.7
2006	(832)	73.5	26.5	9.1	4.1	8.3	5.1
2007	(866)	67.1	32.9	8.7	6.8	12.2	5.2
2008	(890)	47.5	52.5	1.9	3.6	39.4	7.6

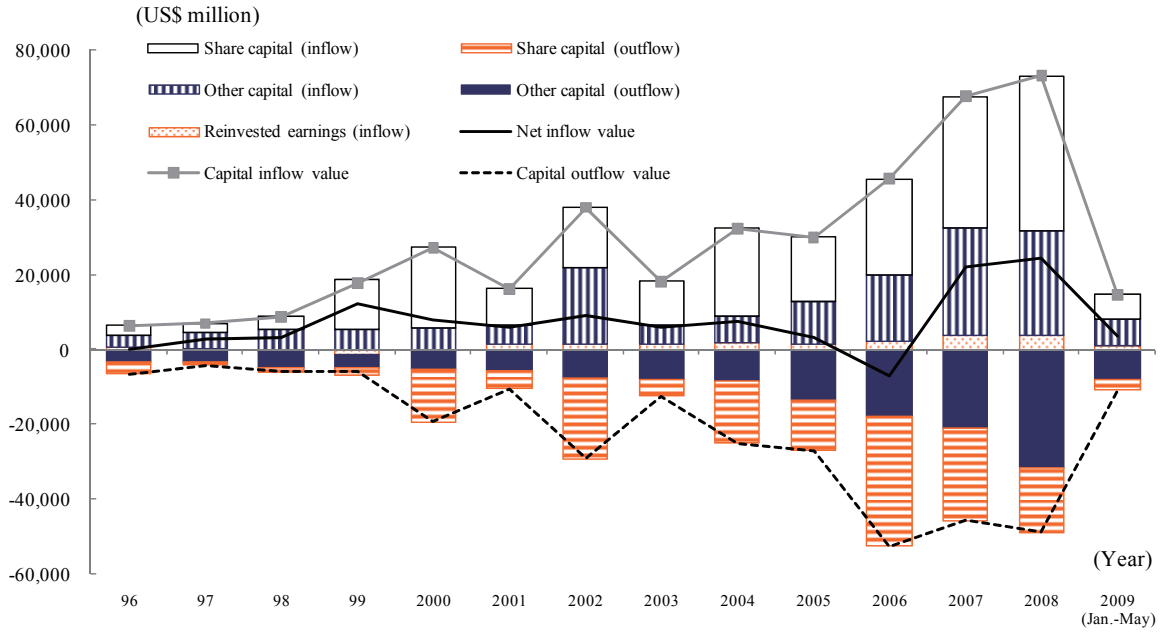
Column Table I-2 Overseas sales and profit among listed Japanese companies

Year-on-year growth rate

Fiscal year (number of companies)		Growth rate of sales (year-on-year, %)						
		World						
			Domestic	Overseas	Americas	Europe	Asia and Oceania	Other
1998	(556)	-7.0	-7.5	-5.8	10.9	3.0	-21.6	-29.3
1999	(576)	-3.6	-2.9	-5.3	-7.9	-9.6	11.5	-10.1
2000	(620)	4.2	3.0	7.5	7.4	1.2	22.2	-3.8
2001	(650)	-2.7	-6.0	5.8	7.6	4.8	1.2	9.1
2002	(683)	2.4	0.0	7.7	2.3	11.3	16.8	6.4
2003	(694)	-0.4	-0.9	0.9	-4.9	5.4	3.6	7.5
2004	(710)	7.4	6.1	10.0	2.9	11.7	17.1	15.1
2005	(748)	10.3	7.8	15.4	13.7	10.5	28.0	4.2
2006	(773)	13.9	14.3	13.0	10.3	18.7	16.7	3.9
2007	(786)	7.9	6.4	10.5	7.5	19.1	15.0	-8.5
2008	(841)	-13.0	-12.3	-14.2	-18.8	-16.0	-11.1	-7.4

Fiscal year (number of companies)		Growth rate of operating profit share (year-on-year, %)						
		World						
			Domestic	Overseas	Americas	Europe	Asia and Oceania	Other
1998	(556)	-20.0	-23.7	-8.0	12.9	14.9	-26.4	-45.7
1999	(576)	7.8	9.7	2.7	13.1	-50.6	22.0	10.9
2000	(620)	26.8	34.8	2.9	-4.7	-58.5	51.4	2.1
2001	(650)	-31.3	-35.6	-14.6	-13.2	-33.0	-22.1	-0.2
2002	(683)	40.2	35.7	54.0	40.8	389.8	49.0	38.1
2003	(694)	15.5	15.7	15.2	-0.4	86.3	24.4	2.6
2004	(710)	15.4	14.4	18.0	17.6	6.7	21.1	26.3
2005	(748)	14.6	12.4	20.3	16.1	18.2	33.7	5.4
2006	(773)	28.2	33.4	14.9	6.5	38.2	2.9	47.8
2007	(786)	11.3	7.4	20.3	-10.0	55.0	41.2	12.5
2008	(841)	-55.0	-65.5	-38.7	-89.8	-69.9	-20.0	-10.8

Figure I-39 Breakdown of Japan's inward direct investment by type



(Note) The yen-based value is converted to dollars each quarter by using the average quarterly Bank of Japan inter bank rate and then the annual sum is calculated.
(Source) Both this figure and Fig. 1-40 were prepared based on "Balance of Payments Statistics" (Ministry of Finance and Bank of Japan).

Table I-27 10 Largest M&As By Overseas Companies In Japan (January 2008 - April 2009)

Month/Year	Acquired company	Industry	Acquiring company			Amount (US$ million)	Equity after acquisition (%)
				Country/ region	Industry		
Jan. 2008	Nikko Cordial Corporation	Securities	Citigroup Japan Holdings (a wholly owned subsidiary of Citigroup Inc.)	U.S.	Holding company (financial holding company)	4,466	98.7
March 2008	Arysta LifeScience	Chemicals	Industrial Equity Investments	U.K.	Finance	2,185	100.0
Jan. - March 2008	Shinsei Bank	Banking	Group of investors led by Saturn I Sub (Cayman) Exempt	Cayman Islands	Securities investment advisory services	1,841	28.1
March 2008	Shinsei Bank (head-office real estate)	Commercial property	Fujisawa Holding (a special-purpose company intended to establish real estate funds managed by an affiliate of Morgan Stanley of the U.S.)	U.S.	Finance	1,174	100.0
June 2008	Chugai Pharmaceutical	Pharmaceuticals	Roche Pharmholding BV (a Dutch subsidiary of Roche of Switzerland)	Switzerland	Pharmaceuticals	920	61.5
June 2008	Bosch Japan	Auto parts	Proteus Invest (a special-purpose acquisition vehicle wholly owned by Robert Bosch GmbH of Germany)	Germany	Auto parts	911	97.6
Feb. 2008	The Westin Tokyo	Hotel	GIC Real Estate Pte.	Singapore	REIT	722	100.0
Sept. 2008	D&M Holdings	Electrical equipment	BCJ-2 (a special-purpose acquisition vehicle established by Bain Capital Partners, L.L.C.)	U.S.	Finance	663	92.8
Nov. 2008	Benesse Corp.	Education services	efu Investments Ltd.	New Zealand	Finance	576	13.7

Source: Based on Thomson Reuters data.

Figure I-40 Japan's inward direct investment by region (net)

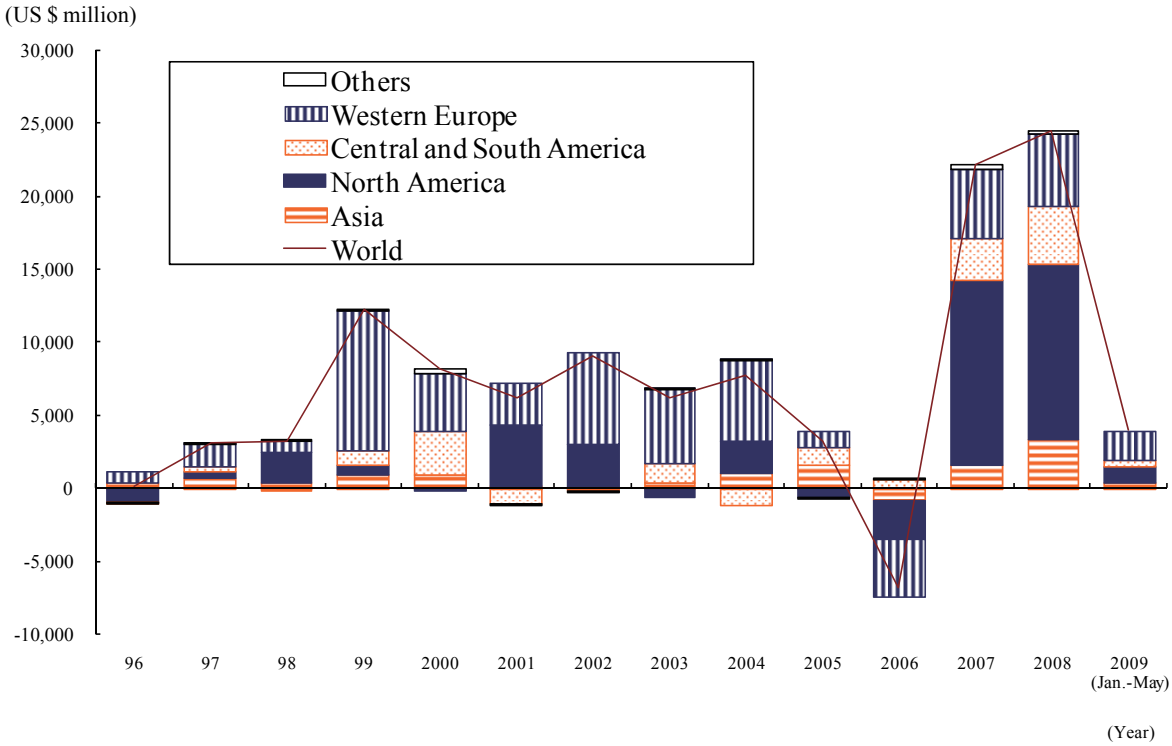
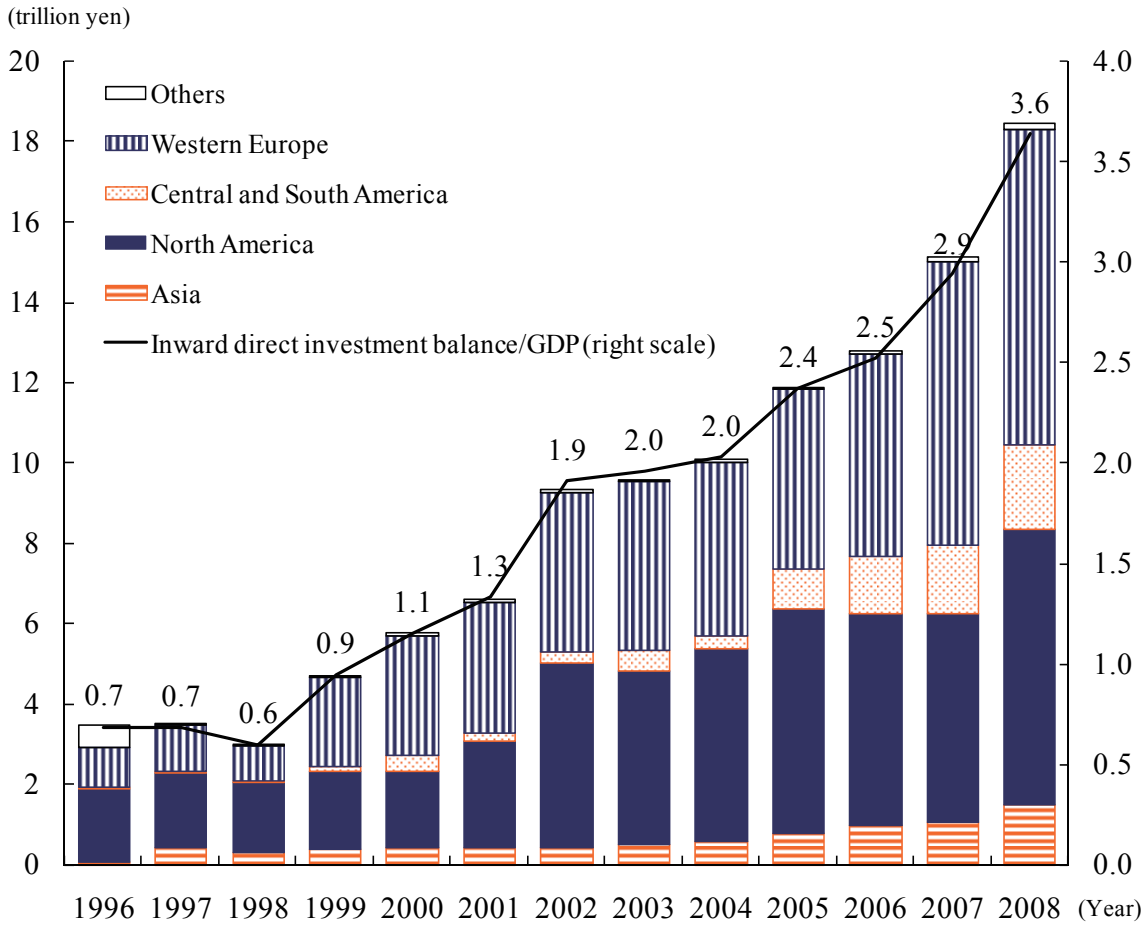
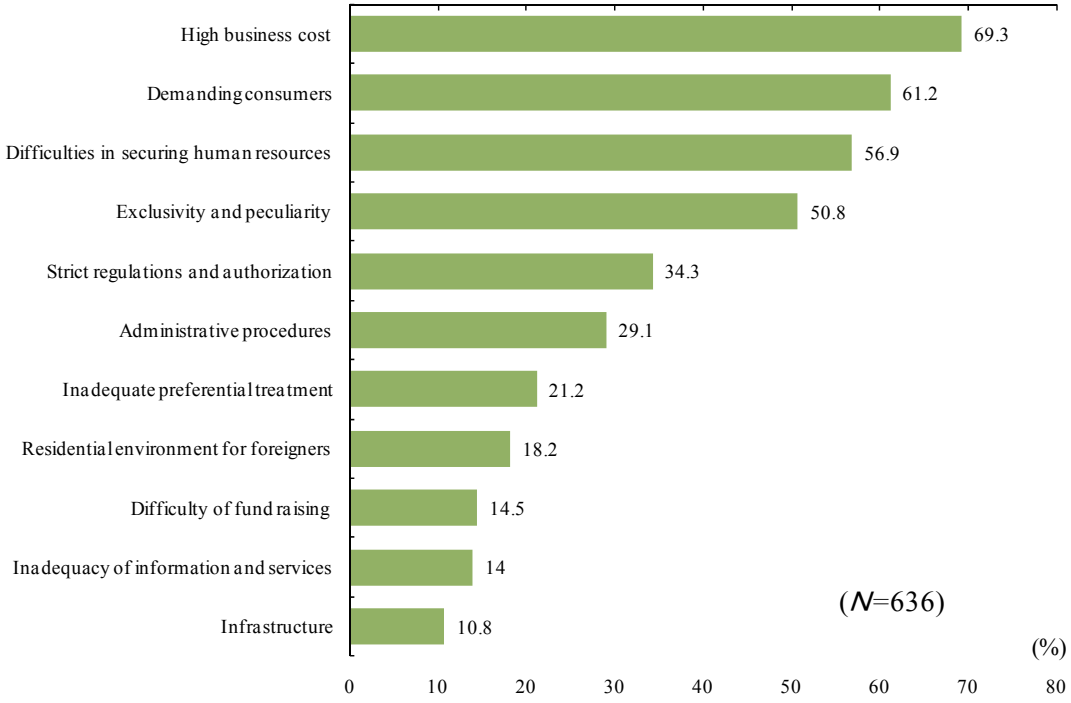


Figure I-41 Japan's inward direct investment balance



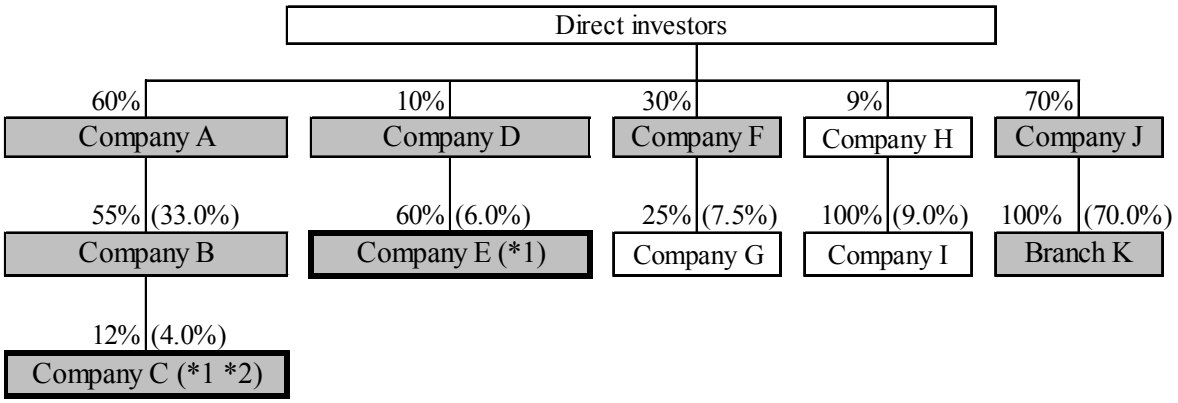
(Source) Prepared based on "Direct Investment Balance Statistics" (Ministry of Finance and Bank of Japan) and statistics from the Economic and Social Research Institute of the Cabinet Office.

Figure I-42 Factors making it difficult to do business in Japan (Multiple replies)



(Notes) Sample size: 2,097 companies; valid responses: 636 companies（response rate: 30.3%); survey conducted Nov 28, 2008 to Jan 14, 2009.
(Source) Prepared based on "FY2008 Survey Report on Foreign-Affiliated Companies' Attitudes toward Foreign Direct Investment in Japan (METI).

Column Figure I-1 Scope of Direct Investment Firms Under the Balance of Payments Manual



Notes: (1) Figures above represent participation ratios, with figures in parentheses representing the investment ratios multiplied by investment ratios of cumulative investments from direct investors.

(2) Companies and branches shaded gray above represent the scope of direct investment under BMP5 and BMP6 principles.

(3) The asterisk (*1) represents an investment not subject to direct investment under the PMM.

(4) The asterisk (*2) represents an investment not subject to direct investment under the DIIC.

Source: Based on data from the IMF and the Bank of Japan.

II. Post-Financial Crisis Trade Restrictive measures and the Need for Discipline in International Trade

1. The WTO and the Trade Restrictive measures of Major Countries

(1) Doha Round Stalling due to the Situation of Global Political Economy

The leaders of the G8 nations and five newly emerging nations (Brazil, China, India, Mexico, and South Africa) jointly announced a new resolution at the L'Aquila G8 Summit held in July 2009, to seek "an ambitious and balanced conclusion to the Doha Development Round (the "Doha Round" below) in 2010."

However, to date the path to a conclusion of the Doha Round has been anything but smooth. Since the commencement of the negotiations in November 2001, while efforts have been made towards defining approaches to the reduction of tariffs and subsidies (modalities), the negotiations have faced numerous setbacks. Opinions appeared to be converging in discussions held in the informal ministerial meeting convened in Geneva in July 2008 (the "July Meeting" below) to discuss the reduction of agricultural subsidies and tariffs on products of the mining and manufacturing industries, part of the non-agricultural market access (NAMA) negotiations, which were seen as the key to achieving success in the Doha Round. However, conflict between the U.S. and India/China in discussions concerning special safeguard mechanisms (SSM), emergency import restrictions for developing nations able to be put into effect temporarily in the event of a rapid increase in imports of agricultural products, and a NAMA's sectoral initiative that would see complete elimination of or massive reductions in tariffs in specific sectors including automobiles and related parts and chemical products could not be resolved, and the talks collapsed after all. Another informal ministerial meeting was scheduled for the following December, but was ultimately not held due to the lack of progress in negotiations at the working level.

Changes in the situation of the global political economy have acted as a heavy weight on the negotiating positions of the participant countries in the Doha Round. The U.S. is the key to agreement in the Doha Round. In the U.S., the Obama administration began in January 2001, ushered in Democrat-led senate, and the administration has expressed its commitment to the Doha Round, as demonstrated by statements made by U.S. Trade Representative Ron Kirk indicating that it was seeking a conclusion within 2010. However, the U.S. is presently engaged in rebuilding its ailing domestic economy, and there is a strong possibility that trade policy will be put on the back burner.

In India, which had clashed with the U.S. in the July meeting, the ruling Indian National Congress Party declared victory in general elections held in May 2009. India is expected to make continuing efforts to engage in the Doha Round, but circumstances are working against this, with increasing calls from businesses suffering under the financial crisis for introducing import restrictive measures such as trade remedies, import licensing systems, etc.

It is highly possible that the changed global economic and political situations will act as impediments in areas in which political decisions are essential, such as the important discussions regarding the reduction of agricultural tariffs and subsidies. Ministerial meeting is scheduled to be held in Geneva between November 30 and December 3, 2009. However, it is not yet clear to what extent substantive negotiations will be pursued.

It should not be assumed, however, that negotiations are not moving at all. The nations and regions involved are pursuing negotiations at the working level, and technical points are being decided. Progress in working-level negotiations has resulted in revision of Chairperson's texts, in which the Chairperson of each negotiation records his or her personal opinions regarding the status of the discussions. The negotiating teams use these Chairperson's texts as foundations for proceeding to the next step (Table II-1). Political decisions are essential in the case of important discussions that will have a significant

domestic impact, but these cannot be expected at present, and working-level negotiations can be predicted to continue step-by-step.

== Table II-1 ==

It is no exaggeration to indicate that world trade has developed with the WTO at the core of the process. What are demanded now are the further liberalization of trade and the establishment of trade rules through the conclusion of the Doha Round.

(2) Introduction of trade restrictive measures in certain countries following the financial crisis

■ Successive introduction of trade restrictiive measures and surveillance by the WTO

In the times of economic recession, a sense of alarm with regard to competing imported products increases in line with the worsening status of business operations. The business world demands the introduction of trade restrictive measures by the government, and the government and legislature respond to them. In this way, pressure for the imposition of trade restrictive measures can easily increase.

If such measures are imposed, other countries and regions may follow suit, leading to fear that the imposition of retaliatory measures may spread worldwide. The impact on other countries and regions would be particularly strong if the U.S., the world's largest economy and the major proponent of free trade over the past quarter-century, were to impose trade restriction measures.

Various trade restrictive measures have actually been imposed in certain countries and regions since the global financial crisis in October 2008 (Table II-2). In addition to offering financial bailout packages to then-struggling General Motors (GM) and Chrysler, the U.S. government instituted the Recovery and Reinvestment Act of 2009 in February 2009, which included a "Buy American" clause that prioritized domestic products. Following the entry into effect of this provision, "Buy Indonesian" and "Buy Victorian" campaigns went into effect (the latter in the Australian state of Victoria), European nations including Germany, France, and the UK have successively announced automotive industry bailout measures, and India, Indonesia, and Argentina have introduced import licensing systems. Russia, Ukraine, and Ecuador have raised import tariffs on a wide range of products, including automobiles, electrical goods, iron and steel, and machinery.

== Table II-2 ==

The WTO established a taskforce in October 2008 in response to a surge of trade restrictive measures worldwide, and commenced monitoring them. The WTO reported the results of this monitoring of policy trends to member nations and regions in January 2009, and its activities received the support of the majority of countries participating in an informal meeting of the Trade Policy Review Body (TPRB) held in February of the same year. Following this, member nations approved the issuing of a surveillance report on a three-monthly basis at a meeting of the TPRB held in April 2009.

The Japanese government is also cooperating in this WTO initiative. The Ministry of Economy, Trade and Industry, in cooperation with the relevant ministries and agencies, collects information regarding directions in policy measures, and reports this information to the WTO. JETRO also monitors trade restrictive measures via its network of 71 overseas offices, and provides reports to the Japanese government.

Below, this chapter looks at the major trade restrictive measures put into effect following the financial crisis.

■ **Tariff increases observed in certain emerging nations**

Following the financial crisis, certain nations and regions implemented tariff increases. Russia, Ukraine, and Ecuador increased their tariffs on a large number of products, while India, Turkey, Vietnam, the EU, and Brazil, among other nations, increased tariffs in specific items, including iron and steel products and agricultural products.

Russia has intermittently increased tariffs since November 2008. To date, tariffs have been increased on vehicle bodies, automobiles, meat, combine harvesters, iron and steel products, and televisions. The tariffs on vehicle bodies have been increased from 15% to15% or 5,000 Euros per body, whichever of the two is higher. The tariff on passenger cars (gasoline engine) less than 3 years old was raised from 25% or not less than 1.2-2.35 euros per cubic centimeter of cylinder volume (with some exceptions), to 30% or not less than 1.2-2.8 euros per cubic centimeter of cylinder volume.; tariffs on passenger cars from three to five years old have been increased from 25% or not less than 0.45-1 Euro per cubic centimeter of cylinder volume to 35% or not less than 1.2-2.8 Euros per cubic centimeter. Among iron and steel products, tariffs have been increased on steel tubing, pipes, and other products. Tariffs on flat-screen televisions have also been rosed from 10% to 15%. These tariff measures have been put into effect for periods of nine months or one year.

In Ukraine, additional tariffs up to a maximum increase of 13% have been applied from March 7, 2009 to a wide range of products, including foodstuffs, iron and steel products, textiles, automobiles, and pumps. The Ukrainian government explains this as a measure to safeguard the balance of payments, as specified in Article 18 of GATT. The government announced to the WTO on May 18, 2009 that it had removed the additional tariffs from all imports, with the exception of refrigerators and automobiles. However, on a reported base Ukraine is not applying the extra tariffs to imports from some Eastern European and Middle Eastern nations, and has been criticized for being discriminatory.

From January 2009, Ecuador increased tariffs on a wide range of products, effective for a period of one year. Like Ukraine, Ecuador states that this is a measure to safeguard the balance of payments.

Considered by product, one distinctive feature of these tariff increases is the number of countries applying them to iron and steel products. In addition to the aforementioned Russia, Ukraine, and Ecuador, India, Turkey, Vietnam, and Brazil are among other nations that have increased tariffs on iron and steel products. India increased the tariff rate on certain iron and steel products from zero to 5% in November 2008. Turkey also increased its tariff rates on selected iron and steel products (hot flat-rolled steel: from 5% to 13%; cold flat-rolled steel: from 6% to 14%; etc.) in January 2009. In April 2009, Vietnam increased its tariffs on half-finished iron and steel goods, flat-rolled steel, steel bars, steel wire, and iron and steel pipes by several percent in each case. Ecuador increased a tariff by 5% on products including steel bars and iron and steel springs, while in June 2009, Brazil increased tariffs on seven iron and steel products, including hot-rolled steel sheets and cold-rolled steel sheets, from zero to a maximum of 14%.

Tariffs have also been increased on other products, e.g., soybean oil in India and paper in Vietnam. From October 2008, the EU also reintroduced tariffs on cereal imports which had been eliminated in January 2008.

The products on which tariffs have been increased include products on which tariffs had previously been reduced as an anti-inflation measure to respond to the rapid increases in the prices of primary products, which continued until the first half of 2008.

Under GATT, by means of which the WTO applies discipline to tariffs, member nations bind to an upper limit on tariff rates. The upper limit tariff rates to which member nations commit themselves are called bound rates. The rates actually applied by member nations are

termed applied rates. Because member nations have voluntarily reduced their applied rates since the establishment of the WTO in 1995, in the majority of nations there is a wide gulf between the applied rates and the bound rates. Under the terms of GATT, increasing an applied rate in excess of the bound rate is a violation of the agreement, however nations may increase applied rates to match the relevant bound rates. In the case of Russia, because the nation has not acceded to the WTO, it has made no commitments to bound rates, and may therefore increase tariffs as it sees fit. Given, however, that these measures have a negative impact on global trade, they should fundamentally be avoided, and it would be desirable for their use to be curbed, irrespective of whether or not they are consistent with WTO procedure.

As the examples above indicate, nations around the world can be seen to have introduced tariff increase measures against the background of the global recession. If the Doha Round was to be concluded and bound rates were thus reduced, the potential margin for further increases would be limited, and this could be expected to increase the predictability of tariffs.

However, for countries that have concluded FTAs with countries that have increased tariff rates, the tariff rates specified in the agreement apply, and these countries are thus able to avoid the normal effects of tariff increases on MFN basis. As the Doha Round negotiations drag on and a significant gap continues to exist between bound rates and applied rates, the role of the binding effects of FTAs can be seen as having increased in relative importance.

■ Introduction of compulsory standards centering on iron and steel products

The tightening of regulations regarding standards and certification is conspicuous among trade restrictive measures that have been applied by certain developing nations since the financial crisis. In particular, there has been a succession of cases of imposition of compulsory standards, which are codes and standards to which adherence is compulsory. Every country possesses its own unique standards, like the Japan Industry Standards (JIS); they are termed compulsory standards when compliance is obligatory rather than voluntary.

India, Malaysia, Indonesia, Argentina, and Ecuador are among countries that have introduced compulsory standards in the wake of the financial crisis. Compulsory standards for iron and steel products are conspicuous among those that have been introduced.

In September 2008, India introduced regulations requiring compulsory compliance with Bureau of Indian Standards (BIS) standards for six iron and steel products, including steel wire and steel bars. India announced compulsory standards for 11 further products, including magnetic steel, tin plate, and certain types of steel sheet, in February 2009. However, facing opposition from other nations and the domestic business community, the government announced immediately before the standards were to go into effect that it would defer implementation of the regulation for a period of one year, and would exclude three products from the application of the regulation.

In November 2008, Malaysia abolished its import license system for 57 iron and steel products including steel bars and stainless steel, but introduced compulsory standards. The standards were formulated by the Construction Industry Development Board (CIDB) in the case of iron and steel products used in construction, and the Standard and Industrial Research Institute of Malaysia (SIRIM) in the case of other iron and steel products. It has been indicated that the introduction of these compulsory standards has increased costs for Japanese companies that deal with the target products.

In January 2009, Indonesia also announced its intention to comply with Indonesian national standards compulsory in the case of hot-rolled-steel sheets, steel strips, zinc, and aluminum alloy-coated steel sheets, among other products. In March 2009, the Indonesian government specified product certification organizations and testing laboratories. In the same month, while waiving the application of the regulations in the case of certain products, the

government announced that batteries and shoes would now be the subjects of compulsory standards. These measures have been successively introduced from May 2009.

From February 2009, Ecuador introduced compulsory standards for automobiles and automotive parts including brake pads, plastic pipes, tires, and glass, among other products.

In addition to the above, there have also been cases of the introduction of import prohibition measures, with standards certification offered as the justification. In January 2009, India announced that it would prohibit imports of Chinese-made toys (HS numbers 9501, 9502, and 9503) for a period of six months. This measure met with resistance from China, and the Indian government softened its stance in March 2009, indicating that it would accept imports of Chinese-made toys if they fulfilled conditions including meeting standards set by ASTM International and the International Standards Organization (ISO).

In Thailand, the procedures for acquiring or renewing product certification from the Thai Industrial Standards Institute (TISI) became stricter from May 2009. Procedures for obtaining approval from the TISI became stricter in practice from the latter half of 2008, and there were cases in which more time than had previously been the case was required to obtain certification. In South Korea, lithium secondary batteries became the target of compulsory standards from July 1, 2009.

In addition, while not a measure announced following the financial crisis, China's plans for the introduction of a system of compulsory certification for IT security products is presently a subject of concern. The Chinese government announced in January 2008 that 13 products, including certain software products and IC cards and systems would become subject to China Compulsory Certification (CCC), administered by the Certification and Accreditation Administration of the People's Republic of China (Certification and Accreditation Administration of the People's Republic of China, Notice No. 7, dated January 28, 2008). Concerns that the introduction of the new measure will lead to violations of intellectual property rights due to the disclosure of technological information and that new procedures will increase operating costs have been voiced by foreign-owned companies and others. Faced with these serious concerns on the part of other countries, the Chinese government announced in April 2009 that it would limit the requirement for disclosure to the case of procurement by the government, and that it would postpone the implementation of the measure for one year, until May 2010 (Notice No. 33, dated April 27, 2009). The introduction of intellectual property-related regulations in a growing market like China is certain to have significant repercussions.

Of the various WTO agreements, order is maintained in measures relating to standards and certification by the WTO Agreement on Technical Barriers to Trade (TBT). The TBT prohibits the introduction of measures the purpose of which is to create unnecessary obstacles to international trade. All nations introduce measures to ensure the safety of their citizens, and it can be difficult to clearly judge whether a given measure is necessary or unnecessary. However, there are numerous cases in which measures related to standards certification have been introduced as de facto import restrictive measures, and it is therefore important to also enhance surveillance in relation to these measures.

■ Non-automatic import licensing may violate WTO rules

Since the financial crisis, such emerging nations as India, Indonesia, and Argentina have introduced import licensing systems for specified products. From November 2008, India introduced the government license requirement for iron and steel products including hot-rolled steel and unalloyed flat-rolled steel sheets, and automotive parts including gearboxes and bumper bars. Indonesia has made a total of 505 products, including foodstuffs and beverages, children's toys, and electrical and electronic products, subject to the importer registration requirement and pre-shipment testing for two years from January 2009. In

addition, these products can only receive customs clearance at international airports and five sea ports. Furthermore, a system of importer registration for iron and steel products has been in place since April 2009. Non-automatic import licensing for products including iron and steel products, metallurgical products, spun products, elevators, and tires has been in effect in Argentina since November 2008.

Generally speaking, import license system is introduced for a wide variety of purposes, including import control, sanitary and quarantine, and the safety protection. Under WTO rules, import licenses are divided into automatic and non-automatic. In the "automatic" category, licenses are granted for all products that are subject to approval. Non-automatic import licensing systems, on the other hand, may be partly aimed at import restriction.

If such a measure places quantitative restrictions on imports, then it may be in violation of Article 11 of GATT (General Elimination of Quantitative Restrictions), which prohibits quantitative restrictions in principle. Exceptions are found in the case of restrictions applied to relieve critical shortages of foodstuffs (Article 11, Item 2(a)), restrictions necessary to the application of standards (Article 11, Item 2(b)), restrictions applied to safeguard the balance of payments (Article 18, Section B), restrictions applied as safeguards (Article 19), and restrictions applied to protect public morals, human and animal life, etc. (Article 20). For example, Japan prohibits the importation of guns, chemical weapons, etc., under the Customs Act, and requires registration of importers of mercury, nicotine, ammonia, and other toxic substances under the Poisonous and Deleterious Substances Control Law.

Even assuming that quantitative restrictions are justified, the operation of an import licensing system can still present problems. Under the terms of the WTO Import Licensing Agreement, an import licensing system must guarantee transparency and impartiality, and must not be operated in such a way as to restrict trade. In addition, in the case of a non-automatic import licensing system, applications must be processed within 30 days if treated on a first-come, first-served basis, or within 60 days if considered simultaneously.

With regard to this point, there is a possibility that the non-automatic import licensing system for elevator products introduced by Argentina in November 2008 may violate the WTO rules. The "2009 Report on Compliance by Major Trading Partners with Trade Agreements-WTO, FTA/EPA, BIT-," published by the Ministry of Economy, Trade and Industry, reports on a case in which no import license was granted for elevator products exported from Japan despite the fact that 30 days had elapsed from the date of application, and the products were unable to be unloaded at the port of import.

Japanese companies with bases in Indonesia have also indicated concerns regarding the problems with the registration system introduced on April 1, 2009 for importers of 202 iron and steel products, including hot- and cold-rolled steel coils and sheets, plated steel sheets, and welded pipes. This measure requires importers and manufacturers of the specified iron and steel products to register, to inspect the products prior to shipment at the port of loading, and to report on the status of importation of the products every three months. Points on which Japanese companies have expressed their dissatisfaction in relation to this measure include the facts that (1) the Japanese inspection companies able to be employed and the procedures involved in the inspections prior to shipment have not been made clear (as of May 2009, because no decision had been reached regarding the companies to be used for the pre-shipment inspection, importers which had already completed the registration procedures had been exempted from the requirement for inspection), and (2) it is unclear which products are exempted from the measure based on bilateral agreements (in Japan's case, the Japan-Indonesia FTA[1]).

[1] In Japan, the term FTA generally refers to an agreement covering goods and services, while an agreement encompassing a broader range of topics including investment and government

■ "Buy American" spreading over the world

The U.S. Recovery and Reinvestment Act of 2009 was enacted on February 17, 2009. Coming as it does in the midst of what is considered the worst recession since the global panic of the 1930s, the enactment of this bill is extremely welcome not only for the U.S., but also for all other countries seeking to boost their exports with a recovery in U.S. consumption. However, the Act also includes a "Buy American" clause, which stipulates that the use of U.S.-made iron and steel products and manufactured goods should be used in public works construction and repair projects. This is a response to strong lobbying by the U.S. iron and steel industry, which has faced a severe business environment.

The major trading partners of the U.S., including the EU, Canada, and Japan, have all expressed strong concerns since this clause was included in the bill put before the House of Representatives and the Senate. In response, President Obama indicated that the U.S. had no desire to ignite trade conflict in introducing the "Buy American" clause, and a provision reading "This section shall be applied in a manner consistent with United States obligations under international agreements" was added to the clause.

"International agreements" here refers to the WTO Government Procurement Agreement, FTAs concluded by the U.S., and the Caribbean Basin Trade Initiative, among others. The WTO Government Procurement Agreement differs from other WTO agreements which, in principle, apply to all member nations in that it is a "plurilateral" agreement, and participation is voluntary. As of August 2009, 14 nations and regions participated in the agreement, including Japan, the U.S., and the EU27. There are 16 countries with which the U.S. has formulated FTAs in this case (the U.S.-Jordan FTA contains no commitment regarding increasing access to the government procurement market). While the mandatory use of the U.S.-made products is fundamental to government procurement in the U.S. based on the provisions of the Federal Buy American Act of 1933 and some of state government procurement laws, the WTO Government Procurement Agreement and the government procurement chapters in FTAs guarantee national treatment, with conditions attached, for signatory nations and regions. The U.S. will adhere to the terms of these existing agreements, and the Buy American clause in the Recovery and Reinvestment Act of 2009 will not affect the products of these nations and regions.

However, in both the WTO Government Procurement Agreement and the FTAs concluded by the U.S., the stipulations only apply to procurements of a value equivalent to or exceeding certain thresholds. For example, in the case of the WTO Government Procurement Agreement, the U.S. federal government specifies figures of (1) USD 194,000 or more for goods and services, and (2) USD 7.443 million and above for construction services, to be subject to the stipulations of the agreement (as of August 2009).

Nations which do not participate in the WTO Government Procurement Agreement, or which have not had FTAs with the U.S., e.g., China, India, Brazil, and Russia (the BRICs) will be affected by the Buy American clause of the Recovery and Reinvestment Act of 2009. The BRICs have raised objections to the Buy American clause in succession, and Brazil's Foreign Minister Celso Amorim has not ruled out the possibility to bring the case to the WTO.

However, as these nations have traditionally been discriminated against in U.S. government procurement based on the Buy American Act of 1933 and some state government procurement laws, it is not the case that the discrimination based on the 2009 Act is an

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procurement is termed an Economic Partnership Agreement, or EPA. In this paper, the term FTA will be employed for both forms of agreement.

entirely new phenomenon.

Nevertheless, there are concerns that the U.S. has sent a clear protectionist message to the world via the Buy American clause. As the situation faced by industries in countries throughout the world has become increasingly severe with the rapid economic downturn, calls for the protection of domestic industries through methods including the use of subsidies or the restriction of imports have increased in strength. Against this background, it is feared that the introduction of protectionist measures by the very nation that has driven the free trade movement over the past quarter-century may prompt other nations and regions to follow suit, or to retaliate, by introducing trade restrictive measures.

Measures resembling "Buy American" have in fact begun to appear in other countries around the world. Regulations stipulating the preferential treatment of locally made goods and local companies at all levels of the government were issued by Indonesia's Minister of Public Works in May 2009. If a predetermined local procurement rate for goods and services is met, the relevant company will receive a price advantage when being evaluated for a bid. For construction services as part of public works projects, in the case of a local company, a price advantage of 7.5% will be obtained under fixed conditions; in the case of a consortium, if the representative company is Indonesian, that company will receive 50% or more of the value of the tender, and if other conditions are fulfilled, a price advantage of 5% will be obtained. The government of the Australian state of Victoria announced measures in March 2009 under which a level of 40% local content would be sought, with local businesses receiving a 10% price advantage when bidding for public works projects of "strategic projects" valued at AUD 250 million dollars or more. Movements to prioritize domestic and local goods for procurement can also be observed in other areas, including the states of New South Wales in Australia and Ontario in Canada.

The scale of the global government procurement market cannot be ignored. In major nations, the value of government procurement represents approximately 9% of GDP. In addition, major nations and regions including Japan, the U.S., and the EU are increasing government expenditure as an economic stimulus packages to counter the recession, and business opportunities for foreign companies are consequently expanding. Against this background, if more nations implement preferential measures for domestic products like Buy American, it will represent a significant loss of opportunities for companies with their sights set on the overseas government procurement market.

■ Application of special safeguards against Chinese-made products likely to increase in addition to AD and CVD

The trend towards protecting domestic industries from imported products is increasing in strength, with the implementation of trade remedies such as anti-dumping (AD) measures. The WTO has indicated that 120 AD investigations were commenced in the latter half of 2008, an increase of 35 over the first half of the same year.

In recent years, Chinese-made products have been the major target of AD measures implemented around the world. The WTO has indicated that 413 AD investigations were commenced against Chinese products from 2002 to 2008, representing 27% of the total, and measures were applied against Chinese goods in 297 cases, again 27% of the total. India has implemented the most AD measures, and has been actively putting measures in place against Chinese-made goods since the financial crisis, in particular iron and steel and chemical products. From July to December 2008, India initiated 21 AD investigations against Chinese products, an increase of 12 investigations from the first half of 2008, and a figure representing half of the nation's total of 42 AD investigations for the same period.

The AD and countervailing duties (CVD) are measures put into place to prevent harm to domestic industry by increasing tariffs on unfair imports. AD measures can be implemented

against products exported at dumping prices, while CVD measures target products that have been rendered competitive by means of subsidies from the government of the exporting nation. Safeguard (SG) measures are another form of trade remedy measures, but unlike AD and CVD, they are not implemented to protect domestic industries from unfair imports from a trading partner, but are put into effect when a rapid increase in imports causes serious harm on domestic industries, or when threat to cause serious harm exists. AD, CVD, and SG are all legitimate measures under the WTO rules, and their application should be unproblematic as far as investigation as well as measures implemented are in accordance with the terms of the agreement. However, if such measures are applied excessively, they become an impediment to trade. In addition, there is ambiguity in the WTO rules in this area, and as in the case of the use of zeroing by the U.S., AD measures continue to be applied in contravention of the WTO rules.

The U.S. refrained from applying CVD measures to Chinese products for an extended period, but finally in November 2006 started a CVD investigation in relation to Chinese-made coated paper. Following this, up to August 2008, the U.S. conducted 13 CVD investigations against Chinese products, and applied the measures against a variety of products including welded steel pipes, square steel pipes, laminated bags, and sodium nitrite. The application of CVD measures by the U.S. against Chinese-made products is predicted to increase in future. As part of the nation's policy of promoting Chinese brands, China is providing export subsidies for electrical and other goods. The U.S. and China are presently contesting this issue before the WTO's Dispute Settlement Body, but it is possible that the U.S. will make these products, which have been increased in competitiveness by subsidies, the targets of future CVD measures.

AD and CVD are not the only causes of concern for China. At the conclusion of the negotiations for China's accession to the WTO, the existing member nations won two safeguards against China: China-Specific Textile and Apparel Safeguard; and Transitional Product-Specific Safeguard. Normal SG measures can be used to restrict imports from any WTO member nation or region, but these two measures apply exclusively to Chinese products. While the application of the China-Specific Textile and Apparel Safeguard was limited to Chinese-made textiles and textile products, the product-specific safeguard can be applied to any Chinese-made product. The Textile and Apparel Safeguard became ineffective as of the end of 2008, but the Product-Specific Safeguard can be applied until the end of 2013. Up to the end of 2008, no nations had invoked the measure, but since February 2009, India has applied it to Chinese-made aluminum wheels, soda acid, nylon tire cords, tires, and other products. In the U.S., the United Steelworkers of America petitioned the U.S. International Trade Commission (ITC) in April 2009 for the application of the safeguard (Section 421) against Chinese tire imports.

In April 2009, India provisionally applied AD measures to stainless steel flat-rolled products imported from not only China but also Japan. In June, India again provisionally applied SG measures to hot-rolled steel sheets and other products, and many believe that their application will have a significant impact on Japanese companies.

The abuse of measures such as AD and CVD is a species of protectionism, and it will be essential to continue surveillance to ensure that they are not put to unscrupulous uses on the pretext of safeguarding domestic industries.

■ Subsidies for discriminating consumers

As part of their economic stimulus measures, some countries have introduced subsidy systems to encourage consumers to buy specific products – for example, a certain amount of the purchase price might be refunded. Subsidy systems targeting consumers can be effective in stimulating demand and promoting trade. However, when there is discrimination with

regard to the products that are subject to the subsidy payments, as for example when subsidies are paid on condition that a product manufactured by a domestic company is purchased, the conditions of competition for imported products are distorted, and this may violate the principle of national treatment.

Malaysia is one of the countries considering the introduction of a discriminatory subsidy for consumers. In a speech given in March 2009 concerning the nation's second economic stimulus package, Finance Minister and then Deputy Prime Minister Najib Razak announced the nation's intention to introduce a scheme offering a subsidy for consumers to replace their present car with a domestically made vehicle. Under the scheme, the government would offer a subsidy of 5,000 ringgits (approximately 13,000 yen) to consumers who purchase a car manufactured by the domestic automakers Proton or Perodua to replace a vehicle that is 10 or more years old. Given its restriction to domestically manufactured vehicles, this measure can be indicated as discriminatory.

■ The U.S. and European Countries Bailing out Struggling Companies

Following the financial crisis, a wave of support measures for industries was announced, chiefly in the developed nations (Table II-3). GM and Chrysler, previously ensconced at the pinnacle of the global automotive industry, invoked Chapter 11 of the Federal Bankruptcy Law in June and April 2009, respectively. Prior to the bankruptcies of the companies, the U.S. government provided GM with USD 13.4 billion dollars and Chrysler with USD 4 billion dollars in emergency loans.

== Table II-3 ==

When the U.S. announced the introduction of support measures for GM and Chrysler in December 2008, the move was internationally denounced as protectionist. However, the number of nations and regions offering loans and financial support to domestic industries has now increased, and the list includes the EU, Australia, and Canada, among others.

In the EU, French President Nicolas Sarkozy announced the provision of 6 billion Euros in loans to Peugeot-Citroen and Renault in February 2009. The loans were offered on condition that the companies maintain operation of their plants in France, which drew a strong response from other EU member nations, in particular the Czech Republic, where a Peugeot plant is located. Following this, France indicated that it would remove conditions that would discriminate against other EU member nations. Other than France, the major EU nations to have announced support packages for their automotive industries are the UK, Spain, Italy, Germany, and Sweden.

Subsidy measures for companies and industries are regulated by Article 16 of GATT ("Subsidies") and the WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement). Under the terms of the SCM Agreement, a subsidy is deemed to exist if a government or public body makes a financial contribution (by providing a grant or loan, not collecting revenue which is due, purchasing goods, entrusting or directing a private body to carry out these functions, etc.) and this action provides a benefit to a company (Article 1.1). A subsidy that is "specific to an enterprise or industry or group of enterprises or industries" (Article 1.2) is potentially subject to countervailing measures. If measures falling under this category have a negative impact on the domestic industries of member nations or regions, they have recourse to request for consultation within the WTO Dispute Settlement Body. When an export product that has been increased in competitiveness through the provision of a subsidy causes harm on the domestic industries of an importing country, the importing country is able to apply CVD measures to countervail the effect of the subsidy. Given that the U.S. and European loan measures discussed above involve the provision of government funds

to specific companies (GM, Renault, etc.), they can be considered to be measures with a high degree of specificity.

Subsidies provided on the basis of export performance and subsidies contingent upon the preferential use of domestic products over imported products are prohibited under the terms of the SCM Agreement. If either of these types of subsidies is put into effect, member nations have the right to demand their immediate withdrawal before the WTO Dispute Settlement Body.

In the past, Europe and the U.S. have adopted tough positions with regard to government assistance to ailing companies. The CVD measures launched by Japan, the U.S., and the EU against DRAM manufactured by Hynix, a company which received support from the South Korean government after it almost collapsed as a result of the 1998 Asian financial crisis, is a leading example. In addition, the U.S. has proposed in the Doha Round rule negotiations that a further group of subsidy types should be prohibited in addition to the abovementioned subsidies based on export performance and subsidies contingent upon preferential use of domestic products, including the transfer of funds to compensate for operating losses. The measures targeted here are similar to the measure implemented by South Korea in the case of DRAM.

Despite having previously maintained this stance, the U.S. and the EU have now provided financial assistance to domestic industries. These moves have the potential to impact significantly on a wide range of discussions, including negotiations concerning the appropriate form and rules for subsidy systems and considerations of CVD measures.

■ The role of the WTO as a bulwark against protectionism

Following the financial crisis, there was apprehension that trade restrictive measures designed among other purposes to protect domestic industries, i.e., protectionist measures, would gain ground. It was agreed at the G20 Leaders Summit and the APEC Economic Leaders' Meeting held in November 2008 that restraint should be exercised in the area of protectionist measures. The declaration of the G20 Leaders Summit on Finance and the World Economy held in Washington on November 14-15, 2008 stated that "…within the next 12 months, we will refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing World Trade Organization (WTO) inconsistent measures to stimulate exports." Similar statements were made regarding protectionist measures in the declaration of the APEC Economic Leaders' Meeting held in Lima on November 22, 2008. The declaration made at the G20 Summit held in London in April 2009 reaffirmed the sentiments of the November 15, 2008 declaration, and added that the pledge with regard to protectionist measures would be extended to the end of 2010.

However, despite this commitment, trade restrictive measures are being put into place around the world, as we have seen in a variety of fields.

One point which can be affirmed in relation to the recent trend towards the introduction of trade restrictive measures is that all the measures that have been introduced conform to the framework established by WTO rules – the WTO is functioning as a bulwark against protectionism. The existence of the WTO, with its sophisticated dispute settlement system, functions to ensure that the trade policies implemented by member nations and regions remain within the bounds of the rules. The adoption of protectionist measures in the 1930s, before the WTO came into existence, of which the U.S. Smoot-Hawley Tariff Act is representative, resulted in a rapid contraction in world trade, increasing the severity of the recession in the world economy.

However, the existing WTO agreements are the products of the Uruguay Round (1986-1994), and were thus established fifteen years ago. As exemplified by the gap between bound tariff rates and applied tariff rates, cases in which measures are allowable under the

terms of the present WTO agreements despite their negative impacts on world trade can be observed in a wide range of areas. Given this, the successful conclusion of the present Doha Round becomes even more significant in terms of controlling the rise of protectionism and realizing an expansion of world trade. The WTO Secretariat estimates that the access to markets in products of the mining and manufacturing industries and agricultural products that would result from successful Doha Round negotiations would contribute USD 150 billion or more to global economic stimulus.

The importance of the binding and trade liberalization effects of FTAs can also be seen to be increasing. Against the background of stalled WTO negotiations, FTAs are making an increasing contribution to the liberalization of trade in goods and services. In addition, another role played by FTAs is to provide a foundation for the creation of new rules in areas not covered by the Doha Round, such as investment and intellectual property. The formulation of FTAs consistent with WTO frameworks is an agenda of similar importance to the enhancement of the WTO rules themselves.

2. The Arrival of the Era of full FTA utilization

(1) FTAs now number 171 worldwide

As of August 2009, 171 FTAs were in effect globally. (This figure, based on WTO reports, includes customs unions. For a list of global FTAs, see "Table of World FTAs" in the statistical materials at the end of this report). Sixteen FTAs were in existence at the end of 1989, a figure that increased by 50 in the decade between 1990 and 1999, and by a further 105 in the period of approximately nine and a half years from 2000 to June 2009. (Figure II-1)

== Figure II-1 ==

Despite fears that FTA negotiations would be affected as governments began to focus on domestic policy against the background of the global recession, the number of FTAs going into effect increased steadily from October 2008. However, the negotiations for almost all of the FTAs that have most recently gone into effect were concluded prior to October 2008, when the financial crisis struck. It is possible that the effects of the recession may extend the negotiating period for FTAs presently under negotiation.

(2) Trends in Japan's FTAs

■ Japan has 9 FTAs in effect, has signed 2, and is presently negotiating 5

Japan has concluded successive FTAs since the latter half of 2000. Since the nation concluded its first FTA with Singapore in 2002, its FTA network has rapidly expanded, with the nation concluding agreements with Mexico in 2005, Malaysia in 2006, Chile and Thailand in 2007, and Indonesia, Brunei, the Philippines, and ASEAN in 2008.

The Japan-Philippines FTA was signed in September 2006, but some time was required for its ratification by the Congress of the Philippines, and the agreement did not go into effect until December 2008. The ASEAN-Japan FTA is Japan's first FTA using a multilateral framework. The agreements with specific nations go into effect as each nation completes its ratification procedures. As of June 2009, the FTA was effective between Japan and seven nations, comprising Singapore, Laos, Vietnam, Myanmar, Brunei, Malaysia, and Thailand. The agreement is not yet effective between Japan and Indonesia, the Philippines, and Cambodia.

The entry into effect of the ASEAN-Japan FTA gives Japan effective FTAs with Vietnam, with which the nation had previously signed a bilateral FTA that had not yet gone into effect, and with Cambodia, Laos, and Myanmar, with which Japan had not previously conducted bilateral negotiations (noting, however, that the agreement with Cambodia has not yet gone into effect). In addition, one aspect of the ASEAN-Japan FTA which underlines its significance is the application of a cumulative rule of origin, a provision under which products imported from other signatory nations and used in the manufacture of a finished product are considered to be products of the nation in which the finished product is manufactured. This means that intermediate products procured from either Japan or ASEAN can be treated as products of the nation by which they are imported.

In February 2009, Japan signed an FTA with Switzerland, representing Japan's first FTA with a European nation. Distinctive features of this FTA include, for the first time in a Japanese FTA, the introduction of an approved exporter certification system for certification of origin, high-level disciplines concerning intellectual property and electronic transactions, and WTO-plus liberalization of services. Under an approved exporter certification system, exporters that have received certification from the government are able to self-certify the origin of a product, while other exporters must use third-party certification, in which a third-party organization judges the origin of a product. All of Japan's previous FTAs have

employed third-party certification systems; the approved exporter certification system has been newly introduced in the nation's FTA with Switzerland. Another distinctive feature of this FTA is the fact that nationality requirements for the board members of Japanese subsidiaries in Switzerland have been waived.

Japan is currently negotiating FTAs with the Gulf Cooperation Council (GCC), India, Australia, and Peru. It was hoped that the Japan-India FTA would be concluded by the end of 2008, but negotiations are continuing.

The leaders of Japan and Peru agreed to commence FTA negotiations at a meeting in April 2009, and the first negotiation meeting was held in May 2009. The Japan-Peru Economic Partnership Agreement Research Group (Chairperson: Professor Shujiro Urata, Graduate School of Asia Pacific Studies, Waseda University; Secretariat: JETRO), convened in Japan to study the potential for a Japan-Peru FTA, formulated and published a report recommending the commencement of negotiations in March 2009. This report provided some of the momentum for the commencement of the negotiations. Peru has been very active in concluding FTAs, and has already concluded FTAs with a wide variety of countries including the U.S., Canada, Singapore, Mexico, Chile, and China, and is involved in negotiations with South Korea, the European Free Trade Association (EFTA), and the EU (within the framework of the Andean Community (CAN)). Peru has also announced its intention to participate in the negotiations for the Trans-Pacific Strategic Economic Partnership Agreement (TPP), a move that can be seen as significant in terms of the conclusion of FTAs with the participants in the TPP. Negotiations have been suspended in the case of the Japan-Korea FTA (at present, working-level talks are proceeding towards the recommencement of the negotiations).

Table II-4 provides an overview of the Japanese FTAs that are effective, have been signed, or are under negotiation, and the scale of Japan's trade with the relevant nations and regions (for 2008). Japan's nine effective FTAs represent 14.8% of its exports, 15.6% of its imports, and 15.2% of its two-way trade. Factoring in the two FTAs that have been signed and the five presently under negotiation (including the FTA with South Korea, for which negotiations have been suspended), these figures increase to 29.9% in the case of exports, 46.6% in the case of imports, and 38.2% in the case of two-way trade. This demonstrates the increasing importance in corporate activities of business development that takes FTAs into consideration.

== Table II-4 ==

Delays in Japan's FTA negotiations while other countries are actively pursuing negotiations, including South Korea, would put the nation's companies at a competitive disadvantage, making attempts to accelerate negotiations a matter of tremendous importance.

One major talking point with respect to potential future Japanese FTAs is a Japan-EU FTA. FTA negotiations presently being conducted between the EU and South Korea are nearing a conclusion. South Korea's trade structure is similar to Japan's, and if the nation concludes an FTA with the EU, it will receive more preferential tariff treatment than Japan for exports of automobiles, electrical goods, and other products. This is therefore an area of considerable interest for Japan's business community. In January 2007, taskforces were established in Japan and the EU (with JETRO acting as the Secretariat on the Japanese side) to study the potential for an Economic Integration Agreement (EIA) between the EU and Japan. The taskforces compiled a joint report in July 2008.

From January 2009, with JETRO again acting as the Secretariat, the EIA Research Committee began conducting research with the cooperation of members of Japan's business community. The EU has not previously been active in undertaking FTA negotiations with

advanced nations, but following on from the negotiations with South Korea, it agreed in May 2009 to commence FTA negotiations with Canada.

(3) Trends in FTAs in the Asia Pacific Region

■ The ASEAN+1 FTA network is almost complete in the Asia Pacific Region

Since 2000, a large number of FTAs have been concluded in the Asia Pacific region. One significant aspect of this trend is the fact that a network of FTAs between ASEAN and surrounding nations (i.e., "ASEAN+1" FTAs) has virtually been completed. ASEAN has established FTAs with China (effective from 2004), South Korea (effective from 2007), Japan (effective from 2008), Australia and New Zealand (signed in 2009), and India (signed in 2009). In the case of the ASEAN-Korea FTA, certain aspects of negotiations had previously not been concluded between Thailand and South Korea, and this part of the FTA was therefore not effective, but the two nations signed the agreement in February 2009.

ASEAN and Australia and New Zealand signed an FTA in February 2009. The agreement was initially intended to have been signed at the East Asia Summit scheduled to be held in Thailand in December 2008, but the summit was postponed as a result of political instability in Thailand, and the signing was delayed by two months. Thailand and Singapore already have bilateral FTAs with Australia and New Zealand, but when an FTA goes into effect between ASEAN as a whole and the two nations, the benefits of these FTAs will be shared with other ASEAN nations, and will be increased through the introduction of a cumulative rule of origin.

In the case of the ASEAN-India FTA, negotiations were prolonged despite the fact that the parties had been expected to sign the agreement. A broad agreement was reached regarding the ASEAN-India FTA at the Sixth AEM-India Meetings in August 2008, and the agreement was scheduled to be signed at the East Asia Summit in December 2008, but this was delayed due to the postponement of the summit. The agreement was eventually signed in August 2009.

India held its first general elections in five years for the lower house between April and May 2009, with the ruling coalition, led by the Indian National Congress, emerging victorious and retaining power. The Indian National Congress had previously promoted negotiations for India's FTA with ASEAN, and the retention of power by the Congress coalition was seen as boding well for the signing of the agreement. The FTA is expected to go into effect in 2010. Japanese companies have a significant presence in the ASEAN nations, and the coming into effect of the FTA will mean that they will be able to export products at eliminated or reduced tariffs from ASEAN nations to India, a consumer market of increasing importance. Japanese companies therefore have a considerable interest in this matter.

China already has an FTA in effect with Hong Kong, and announced its intention in May 2009 to establish an Economic Cooperation Framework Agreement with Taiwan. Taiwan is a major trading partner of Japan, and it will therefore be necessary to monitor trends in FTAs with the nation.

■ Increasing utilization of FTAs between third countries in the Asia Pacific region

This section will consider the actual status of **utilization** of FTAs in the Asia Pacific region that are of particular concern for Japanese companies.

Table II-5 shows the results of a survey of the status of **utilization** of FTAs of Japanese companies operating in 13 nations (the ASEAN7 nations (Thailand, Malaysia, Indonesia, the Philippines, Singapore, Vietnam, and Myanmar), India, Pakistan, Sri Lanka, Bangladesh, Australia, and New Zealand) with an investment ratio of at least 10% (Survey of Japanese-Affiliated Firms in Asia and Oceania, conducted in FY2008). The companies were asked which of the third country FTAs effective in the Asia Pacific and Southwest Asia

regions they actually made use of (excluding FTAs formulated by Japan in the Asian region). The results of the survey showed that the FTA most frequently used by Japanese companies in the Asia Pacific and Southwest Asia regions is the ASEAN Free Trade Area (AFTA). AFTA is eliminating tariffs in stages, and more than 80% of products are now tariff-free in the ASEAN6 nations (Thailand, Malaysia, Indonesia, the Philippines, Singapore, and Brunei). The next most frequently used FTA is the ASEAN-China FTA. Frequent utilization is also made of the Thailand-India FTA and of the Thailand-Australia FTA. This suggests that the high concentration of Japanese companies in Thailand is using these FTAs in conducting exports to India and Australia.

== Table II-5 ==

Thailand and Malaysia publish figures for the value of trade using FTAs, providing fundamental statistical data for an understanding of the status of utilization of FTAs in effect in the Asia Pacific region.

Table II-6 shows the status of utilization of FTAs in Thailand and Malaysia. Looking first at the status of AFTA, the core FTA in the Asia Pacific region, we find that the combined total value of exports conducted using AFTA for Thailand and Malaysia was USD 15.6 billion dollars, representing 28.6% of the total value of the nations' exports to ASEAN nations (excluding Singapore, which has only ever applied tariffs to certain types of alcohol, the total export value used in the denominator included products which are tariff-free in the importing country on an MFN basis). The rate of utilization of AFTA is increasing annually, with the percentage of total export value of exports conducted using the agreement climbing 23.0 percentage points from 5.6% in 1998. Considered by country, figures are comparatively high for the utilization of the FTA to conduct exports to Indonesia and Vietnam (Table II-7). Six of the signatory nations (the ASEAN6: Singapore, Thailand, Indonesia, Malaysia, the Philippines, and Brunei) reduced tariffs on most products to 5% or less in 2003, and in 2008 more than 80% of products were made tariff-free in these nations. This suggests that the rate of utilization of the FTA has increased as the agreed tariff rates have been reduced. These same six nations intend to remove tariffs on almost all trade items in 2010, and this can be expected to promote even greater utilization of AFTA.

== Table II-6 ==
== Table II-7 ==

In addition, in August 2008, AFTA introduced a new standard for certification of origin. In addition to the value-added content criterion (a product to which value is added in a signatory nation to an amount equivalent to or greater than a predetermined figure is considered a product of that nation), a standard based on change in tariff classification criterion (when the tariff classification number of a finished product manufactured in a signatory nation differs from the tariff classification number of a material not originating in that country that was used in the manufacture of the product, the product is considered a product of that nation) has been introduced. Exporters are now able to choose between these criterions. The introduction of the new criterion for certification of origin is particularly significant in the case of liquid crystal televisions, an area of great interest to Japanese companies. Liquid crystal panels, like liquid crystal televisions, are high-value-added products, and are only manufactured in the region by Japan and South Korea etc. Given that they are not manufactured in ASEAN, it was difficult for these products to satisfy rules of origin requirements when only thevalue-added content criterion was used. The introduction of a criterion based on change in tariff classification criterion will enable these products to satisfy AFTA criterion for certification of

origin, and this can be expected to promote further utilization of the FTA by Japanese companies in future.

As large numbers of FTAs successively go into effect in the Asia Pacific region, the necessity for harmonization of rules of origin has begun to be discussed. In terms of standards for certification of origin, while some FTAs offer exporters a choice of standard, others require only the value-added content criterion, only the change in tariff classification criterion, or both criterions to be satisfied. Companies using Asia Pacific FTAs are demanding to be offered a choice of criteria, and it will be essential in future to intensify discussion concerning the appropriate direction for rules of origin, taking into consideration the further internationalization of company activities as the FTAs begin to cover a broader geographic area. In addition, it will also be necessary to give further consideration to methods of certification of origin, such as discussing the introduction of exporter certification systems.

Turning to the status of use of the ASEAN-China FTA in Thailand and Malaysia, the value of exports using the FTA from both countries in 2008 was USD 3.6 billion, representing 10.1% of the total value of their combined exports to China. The utilization of the FTA for exports of fruit is conspicuous when considered by product. The rate of utilization of the ASEAN-China FTA has remained unchanged, but is expected to increase from 2010, when tariffs are abolished on the majority of products. The utilization of systems outside the scope of the FTA, such as a system for the waiving of tariffs on intermediate goods for the production of goods for export, can be indicated as a reason for the lower rate of utilization of the ASEAN-China FTA at present.

Thailand has effective bilateral FTAs with both Australia and India. The value of Thailand's exports conducted using the Thailand-India FTA is USD 400 million, or 12.3% of the total value of the nation's exports to India. Thailand and India have implemented an early harvest scheme (fast-track tariff reductions) covering 82 products in their FTA. If the total export value of the products covered by this scheme is used as the denominator, a figure of 83.4% is obtained for the percentage of total export value, and the FTA is used for exports of the majority of the target products. The value of Thailand's exports conducted using the Thailand-Australia FTA is USD 4.9 billion, representing 61.9% of the total value of its exports to Australia. Among Thailand's exports to India, the FTA is used most frequently for exports of electrical goods including televisions and air conditioners, while in the case of the nation's exports to Australia, its utilization is most prominent for exports of automobiles.

(4) The wide-area FTA concept under consideration

With the network of ASEAN+1 FTAs largely complete, attention appears to be shifting to the formation of wide-area ASEAN+3 and ASEAN+6 FTAs in the Asia Pacific region. ASEAN+3 encompasses Japan, China, and South Korea in addition to the ASEAN nations, while ASEAN+6 adds Australia, New Zealand, and India to the ASEAN+3 framework. Research is presently being conducted on the viability of FTAs for both frameworks. Japan strongly backs the establishment of an ASEAN+6 FTA.

With the ASEAN+3 and ASEAN+6 wide-area FTAs under review, the concept of an APEC-wide FTA presents a vision of an FTA covering an even broader area.

This APEC-wide FTA, proposed by the U.S., is termed the Free Trade Area of the Asia Pacific (FTAAP). The FTAAP was put on the agenda for research as a long-term project at the 2006 APEC Leaders Summit. APEC is made up of 21 nations located in and around the Asia Pacific region. 12 members of ASEAN+6 are APEC members (India, Cambodia, Laos, and Myanmar are not APEC members). APEC is operating on the basis of non-binding commitments,, and has not previously discussed the formulation of agreements with binding power, such as FTAs. The commencement of FTA negotiations would therefore represent a significant shift in direction for APEC.

Among APEC members, the U.S. has active FTAs with a number of North and South American nations, including Canada, Mexico, Chile, and Peru, but its only FTAs with member nations in the Asian region are with Singapore and Australia. An FTA has been signed with South Korea, but has not yet gone into force. With FTA negotiations excluding the U.S. proceeding in the Asia Pacific region, the nation's interest in establishing an FTA that takes in the region is increasing.

The Trans-Pacific Partnership Agreement (TPP) is an FTA related to the FTAAP in which the U.S. does participate. The TPP, also known as the P4, was originally an agreement formulated between Singapore, Brunei, New Zealand, and Chile in 2006. In March 2008, the TPP commenced negotiations concerning investment and financial services, which had previously been set aside. In February 2008, the Bush administration announced the intention of the U.S. to participate in these negotiations, and in September 2008, the nation further announced its desire to participate in all aspects of the TPP negotiations. Australia and Peru are also scheduled to join the negotiations, and Vietnam has expressed interest. These nations are all APEC members, and the TPP therefore forms a core for multilateral negotiations involving the U.S. towards an APEC-wide FTA.

However, the Obama administration's stance towards the TPP negotiations is unclear. The first round of intergovernmental negotiations was scheduled to be held in Singapore in March 2009, but was postponed due to uncertainty in U.S. trade policy in the wake of the change of administration, among other issues.

Table II-8 shows the percentages of world population, GDP, and trade encompassed by the various wide-area FTAs discussed above. ASEAN+3 and ASEAN+6 respectively encompass 31.4% and 49.6% of the world's population, 19.4% and 23.3% of world GDP, and 22.7% and 25.2% of world trade. With the U.S. and Japan as members, an APEC-wide FTA would encompass more than half of the global economy, representing 40.6% of the world's population, 53.3% of world GDP, and 43.7% of world trade.

== Table II-8 ==

■ Intraregional trade rate of 44% in Asia Pacific region

In part due to the conclusion of successive FTAs, the intraregional trade rate of the Asia Pacific region is displaying an increasing tendency. Table II-9 shows the intraregional trade rates of major regional groupings and the various regional groupings projected in potential wide-area FTAs in the Asia-Pacific region, of the EU, and of the North American Free Trade Area (NAFTA). The intraregional trade rate of ASEAN+6 (two-way trade and adjusted for re-export) was 44.2% in 2008, a figure exceeding the rate for NAFTA. The 2008 intraregional trade rate for APEC (adjusted for re-export) was 64.1%.

== Table II-9 ==

A variety of factors, including the promotion of direct investment and the reduction of distribution costs, appear to be contributing to increases in intraregional trade rates, but from the systemic perspective, the reduction of tariffs by means of FTAs can also be seen to be promoting intraregional trade.

It is predicted that tariffs will be abolished in the major FTAs in the Asia Pacific region from 2010. In AFTA, the ASEAN6 have removed tariffs on almost all products for intra-ASEAN trade, and the majority of goods have been made tariff-free in the ASEAN-China and ASEAN-Korea FTAs. The phased elimination of tariffs in the ASEAN-Japan FTA has also progressed further. We have entered the era of the full FTA utilization, and the agreements are propelling further increases in intraregional trade in the

world's major regions.

(5) FTA Trends in the U.S. and the EU

The Bush administration consistently promoted a free trade agenda, and expanded U.S. market access by means of FTAs against the background of the stalled Doha Round. Prior to the Bush administration, the U.S. had four FTA partners. The Bush administration actively pursued FTA negotiations with nations in Central and South America, the Middle East, and Asia, concluding FTAs with 16 new countries.

However, with the advent of Democratic majorities in the house and the senate in October 2006, clashes with the Bush administration in congress increased in intensity. With the exception of an FTA with Peru, those concluded by the Bush administration from that point onwards (with Peru, Panama, Colombia, and South Korea), remain unratified. Following the global financial crisis in September 2008, it became clear that the world was entering a recession, and the Obama administration that entered power in January 2009 made rebuilding the domestic economy its priority. Given this, it is highly likely that trade policy will be placed on the back burner, and that progress in U.S. FTA formation will be slow.

At the same time as it is working to deepen its level of regional integration, the EU is expanding eastward, has entered into a process of stabilization and association with the Balkan nations, and is deepening its economic relations with the Mediterranean nations. It has also concluded FTAs with Mexico and Chile, and is involved in negotiations towards FTAs with various Central and South American nations, including Mercosur (the Southern Common Market), which includes Brazil and Argentina, and the Andean Community (CAN), which numbers Colombia and Peru among its members. The EU began FTA negotiations with the GCC in 1990, but the process has stalled, and the negotiations have now entered their nineteenth year.

In addition, since the expiry of the fourth Lome Convention, a preferential tariff agreement with the African, Caribbean and Pacific Group of States (ACP) in December 2008, the EU has moved forward with negotiations towards the conclusion of FTAs with these nations. Among the ACP nations, the EU already has FTAs in effect with the CARIFORUM nations, with the exception of Haiti.

In October 2006, the EU announced a new trade strategy under the banner "Global Europe," making clear its intention to pursue FTAs with the rapidly growing emerging nations of Asia. The EU has pushed ahead with negotiations with South Korea, ASEAN, and India as the partners of top priority.

The FTA between the EU and an Asian nation that should receive the closest attention is the EU-South Korea FTA. Negotiations began in May 2007, and appear to have been concluded, in major issues, in July 2009. The parties are aiming to sign the agreement within 2009. The major stumbling block in the negotiations was a provision that would keep South Korea's duty drawback system, under which tariffs paid for the importation of parts or raw materials used in specified products for export are refunded. With this system in operation, third countries would be able to enjoy merits from the FTA in relation to exports to the EU, and the EU therefore demanded the inclusion of a clause prohibiting the utilization of the system. The South Korean side insisted that it was unable to accept the prohibition of the system, on the grounds that it was an existing system with no relation to the FTA, and that the nation sourced a high ratio of its parts and raw materials from outside the region. Finally, it was agreed that a special provision would be included to go into effect if South Korean companies increased their level of procurement of parts from third countries in the future, and an upper limit was set for the duty drawback system.

In comparison to the negotiations with South Korea, the negotiations between the EU, and India and ASEAN, respectively, have proceeded at a slow pace. Negotiations between the EU

and India began in June 2007. Six rounds of negotiations have been completed to date, and the parties are pushing ahead with the process with a view towards reaching a conclusion by the end of 2009. However, the negotiations are reported to have encountered difficulties in relation to a broad range of areas, such as tariffs, services and investment, and government procurement. ASEAN and the EU began their negotiations in May 2007, but these negotiations also encountered difficulties, and the parties agreed to temporarily suspend them at the ASEAN Economic Ministers Meeting in May 2009. The EU wishes to pursue FTA negotiations separately with ASEAN member nations, but ASEAN side has opposed this, and as yet, it is uncertain when the negotiations will resume.

3. Needs for Discipline on Trade-related Regulations

Today, corporate activities are becoming increasingly globalized, and their needs are diversifying. The range of areas that are becoming subject to liberalization and regulation formulated by GATT and the WTO are increasing. With the establishment of the WTO in 1995, liberalization and regulation was promised in a broad range of fields in addition to tariff and non-tariff barriers, including investment and services, government procurement, and intellectual property rights.

Following the establishment of the WTO, there were increasing calls for liberalization and the establishment of regulations in areas newly agreed upon in the Uruguay Round and the coordination of competition. In addition to the area of services, the Doha Round pursued negotiations in the areas of investment, government procurement, and competition, the so-called "Singapore issues." However, in the face of strong oppositions from developing nations, among others, the Singapore issues were eventually taken off the agenda. In addition, the Doha Round has not given sufficient consideration to trade measures related to the environment.

We also cannot ignore the fact that 15 years have passed since the conclusion of the Uruguay Round. A rapid conclusion to the Doha Round is essential from the perspective of matching trade rules to the realities of fast-changing economic activity, while the necessity of rule-making in FTAs, multilateral agreements, bilateral frameworks, etc., has also increased as an adjunct to the multilateral rule-setting associated with the WTO.

(1) Discussions Concerning Trade and the Environment

■ Increasing environmental awareness worldwide

An increase in environmental awareness can be observed throughout the world. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), published in 2007 indicated that the global warming "unequivocal." The issue has been brought home to people throughout the world by disturbing images of crumbling glaciers in the Arctic and the Antarctic, animals and plants on the verge of extinction, and torrential downpours and droughts, and we have become aware that the situation is no longer potential, but actual. Work is being done to combat global warming in a large number of international forums and in countries and regions throughout the world, and considerable effort is being directed towards attempts to reduce emissions of carbon dioxide, one of the factors causing global warming.

The United Nations Conference on Environment and Development (also known as the Earth Summit), held in Rio de Janeiro in June 1992, represented a major turning point in thinking regarding the environment. 182 countries participated in the summit, with 102 sending their leaders. Participants voted to adopt the UN's Agenda 21, an action plan for sustainable development for the 21st century, and signed two important agreements, the Framework Convention on Climate Change and the Convention on Biological Diversity.

Another important summit was held in Johannesburg in September 2002, 10 years after the Earth Summit. 104 leaders representing 191 countries participated in The World Summit on Sustainable Development, also known as the Johannesburg Summit. The summit reviewed Agenda 21, and produced the Johannesburg Declaration in addition to establishing an implementation plan providing guidelines for action. This summit increased international awareness of the fact that environmental issues demand rapid solutions.

At the same time, discussions began to focus on the relationship between free trade – essential for economic development – and the preservation of the environment. In 1991, a dispute was brought before a GATT panel regarding import restrictions imposed on Mexican tuna by the U.S., because of the use of fishing methods resulting in a high rate of capture of dolphins in the tuna nets. The panel found that the restrictions were not justified under the

terms of GATT, leading to a fierce reaction from environmental groups. Free trade rules were seen as taking precedence over environmental protection measures. However, since that period, discussions of these issues have continued globally, and awareness that the two can coexist has increased. The relationship between free trade and environmental protection was taken up as an issue at the Earth Summit and the Johannesburg Summit, and it was concluded that such a relationship could be mutually supportive. In the Doha Round, "trade and the environment" forms part of the negotiation agenda, aiming at reducing as well as cutting tariffs on environment-related products, and harmonizing between trade rules and the various environmental agreements, concerning the management of poisonous substances, waste products, and chemical substances.

In the EU, new types of environmental regulations dealing with the waste produced by the manufacturing industry are being successively introduced based on the 6th Environmental Action Programme announced by the European Commission in July 2002. Based on the concept the polluter-pays and precautionary principles, and taking into consideration the lifecycle of the product (to be discussed below), these regulations demand that member nations and their industries reduce the environmental burden at every stage of a product's life, from design to scrapping. The regulations are therefore having a significant impact on business activities. The EU's environmental regulations are also spreading to other major nations, including the U.S., Japan, China, and South Korea.

Below, this report will consider what actions are being taken by the international community and individual nations, based on the recognition that protection of the environment and a free trade system can coexist. In particular, focus will center on the discussions taking place in the Doha Round concerning the reduction or elimination of tariffs on environment-related products and the relationship between WTO rules and environmental agreements, in addition to looking at the effect of the EU's environmental regulations on business activities.

■ The coordination of trade liberalization and environmental protection in the WTO

With the increasing global efforts to protect the environment, such as the implementation of measures to combat climate change, the WTO has also been required to harmonize the relationship between trade liberalization and the environmental protection measures that are sometimes inimical to it. Because GATT does not contain clear stipulations regarding environmental protection, in the majority of cases the WTO-consistency of domestic environmental measures is decided by the WTO Dispute Settlement Body based on interpretation of Article 20 of GATT, covering general exceptions to trade rules (Figure II-2).

== Figure II-2 ==

In 2001, the Appellate Body of the WTO ruled that a French domestic measure banning imports of products containing asbestos fibers was necessary for the protection of human life and health, and that the criteria for application of the measure were justifiable under WTO rules. This case demonstrated that the WTO Dispute Settlement Body would to a certain extent consider domestic measures implemented for the purpose of environmental protection as exceptions to the demands of trade liberalization. However, there are limits to the regulation of these issues that can be achieved through a reliance on the judicial interpretations of the WTO, and the necessity for an agreement between member nations is recognized.

Paragraphs 31-33 of the Doha Ministerial Declaration stipulate negotiation topics related to trade and environment. The main points of discussion are (1) the reduction or abolition of trade and non-trade barriers to products (termed "environmental goods" below) and services

that are useful from the perspective of environmental protection or have a minimal environmental impact, and (2) clarification of the relationship between WTO rules and specific trade obligations established in multilateral environmental agreements. A number of other points for negotiation are also set out, including the labeling of environmentally conscious products.

■ **Abolition of tariffs on environmental goods**

The point to which the most discussion time has been given in the Doha negotiations on trade and the environment is the method of abolishing tariffs on environmental goods.

Nine advanced nations and regions including Japan, the U.S., and the EU have proposed that tariffs should be abolished on 153 products in 12 classifications (6-digit HS code level). The proposal reflects differences in the detailed classifications used by different countries, and contains provisions for more detailed definitions, the designation of excluded products, withholding of specific products by different countries, etc.

In addition, the U.S. and the EU have proposed a two-stage approach, in which negotiations are divided into those concerning goods on which all WTO member nations should abolish tariffs, and concerning goods on which only the major member nations should abolish tariffs. The approach of limiting the countries participating in the negotiations is similar to that adopted for the Information Technology Agreement (ITA), by means of which around 70 members have abolished tariffs on IT-related goods, and have liberalized approximately 97% of trade in the goods covered by the agreement.

In January 2009, the Japanese government announced its intention to propose its own list of goods, focusing in particular on energy-saving products.

In response to this approach of formulating lists of products to be subject to the abolition of tariffs, as suggested chiefly by the developed nations, developing nations have raised the criticism that the goods proposed by the developed nations are not necessarily utilized as part of environmental measures; i.e., they are imported and exported for purposes other than use in environmental protection-related contexts (this is the issue of "dual use"). The developing nations have also indicated that the formulation of detailed lists in itself is advantageous for the exports of developed nations, which possess greater technological capacity, and are asserting that agricultural products in which the developing nations have a competitive advantage, such as raw materials for bioethanol, should also be subjects of the negotiations. A new proposal made by Brazil in November 2007 for a bilateral "request-offer" process to be employed in negotiations regarding services, can be taken as a representative example of the proposals coming from developing nations (Table II-10).

== Table II-10 ==

The negotiations were discontinued with the list approach and the request-offer approach recorded as Chairperson's proposals, and the negotiation method itself therefore remains undetermined. The trade and environment negotiations are closely related to the non-agricultural market access (NAMA) negotiations, and their progress will be affected by the course of these latter negotiations.

■ **The relationship between multilateral environmental agreements and WTO rules**

The second major point of contention in the trade and environment negotiations has been the coordination of the stipulations of multilateral environmental agreements that impose trade restrictions (prohibition of the importation of regulated items, etc.) and WTO rules. Of more than 250 multilateral environmental agreements in existence, approximately 20 contain provisions, such as import and export prohibitions, which clearly do not conform to WTO

trade liberalization rules. While none of these provisions has yet become an issue for the WTO, as environmental agreements proliferate and increase in complexity, it is easy to predict that cases of conflict with WTO rules will arise in future.

For example, the Cartagena Protocol on Biosafety, an agreement concerning biological diversity, stipulates a higher level of environmental protection than the "precautionary principle" based on the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). Specifically, even if an importing nation does not possess sufficient relevant scientific information or knowledge, it is able to prohibit the importation of a living modified organism if it judges that the importation will have a negative impact on the protection of biological diversity, etc. (Cartagena Protocol on Biosafety, Article 10, Item 6). This is a further step onwards from Article 5, Item 7 of the SPS agreement, which provides for the provisional application of sanitary or phytosanitary measures on the basis of available information. Given this, it is possible that conflicts between prohibitions on imports of genetically modified substances applied by signatories to the Cartagena Protocol and the SPS agreement will represent a problem in the future.

Other environmental agreements forming the subject of negotiations include the Stockholm Agreement on Persisting Organic Pollutants, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and the Montreal Protocol on Substances that Deplete the Ozone Layer.

In the Doha Round, judgments have been demanded regarding which obligations in specific environmental agreements are allowable, based on WTO environment-related standards, and in particular Article 20 of GATT. Japan takes the position that, where environmental agreements clearly stipulate provisions for specific trade obligations, these provisions should be recognized as being in accord with the WTO agreements.

If environmental agreements between WTO member nations are recognized as being consistent with WTO rules, the ability of companies to predict trade risks such as prohibitions on imports and exports will increase to a certain extent, and future progress in the negotiations is therefore eagerly awaited.

There are some cases where consistency with environmental agreements has been established at the FTA level. Article 104 of NAFTA gives priority to the obligations of specific environmental agreements (the Montreal Protocol, the Washington Convention, and the Basel Convention) over NAFTA obligations, provided that the method of complying with the obligations that is chosen is the least inconsistent with other NAFTA obligations.

At present, most attention is being focused on the consistency of countermeasures against climate change being introduced around the globe with WTO rules. The Kyoto Protocol, which makes provision for an emissions trading scheme, contains no provisions for trade restrictive measures that are clearly inconsistent with WTO rules. The Protocol rather enjoins parties to strive to minimize the negative impact of any measures adopted on international trade, seeking to establish harmony between trade and the Kyoto mechanisms.

However, there is a possibility that the details of the measures being considered for introduction around the world in order to meet Kyoto targets, or the mode of operation of these measures, may be inconsistent with WTO rules, and it will be necessary to monitor the situation. For example, the U.S. and the EU are considering the introduction of a border tax adjustment measure (the imposition of an import levy on the products of nations and regions which have not satisfied their commitments for the reduction of greenhouse gases). In June 2009, the House of Representatives passed the American Clean Energy and Security Act, which paves the way for the introduction of border tax adjustment. The same Act enables the President, in the event that no international agreement with binding power regarding the

reduction of greenhouse gas emissions has been reached by January 1, 2018, to recommend to Congress the establishment of a system requiring the purchase of international reserve allowances, corresponding to border tax adjustments, in the case of imports from countries whose levels of energy consumption and greenhouse gas emissions per shipment of specific products exceeds the standards established by the U.S. for the same industry.

In relation to this point, the WTO indicated in a report on trade and climate change jointly issued with the United Nations Environment Programme (UNEP) in June 2009 that border measures put into effect by any nation must be consistent with WTO rules, in particular Article 20 of GATT.

■ **Conflict over eco-labeling carries over from the GATT era**

The provision of information regarding products that consider the environment is allowed by the WTO, provided that it is done in a non-discriminatory manner. However, the WTO does not allow the use of labeling requirements as disguised trade restrictions, or their arbitrary application resulting in actual discrimination against import products. The relationship between eco-labeling and the WTO Agreement on Technical Barriers to Trade (TBT) represents a particular point of argument.

In a recent development, Mexico brought a case to the WTO in October 2008 claiming that a U.S. labeling system indicating that tuna had been caught using "dolphin-safe" methods was discriminatory. This issue had previously been brought before a GATT panel before the WTO came into existence. At that time, the panel report had stated that the labels could be retained provided that they did not hinder free sale of the product. However, the panel report was not adopted. In April 2009, the WTO established a dispute settlement panel to deal with the issue, and attention is being drawn to the case as presenting a new aspect of environment-related conflict in the WTO.

(2) Formation of International Environmental Standards driven by the EU

■ **The EU introduces pioneering environmental regulations successively**

A significant change in thinking about regulations concerning the waste products of the manufacturing industry has taken place. In the past, the central focus was the formulation of regulations to control the discharge of harmful gases and waste products from factories. However, there has been an increasing awareness of the necessity to limit the burden on the environment at every stage of manufacturing process in order to regulate waste products in an efficient manner.

It is the EU that is leading the way in the new push towards this type of environmental regulation. Since the July 2002 publication of the Sixth Environment Action Programme, which provides guidelines for regulations, the EU has been introducing a series of environmental regulations. To date, it has introduced the End of Life Vehicles (ELV) Directive (July 2003), the Waste Electrical and Electronic Equipment (WEEE) Directive (August 2005), the Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) (July 2006), the Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (June 2007), and the Energy-Using Products Directive (EuP) (framework directive: August 2005; Implementation: Successively from December 2008) (Table II-11).

== Table II-11 ==

The life-cycle thinking (LCT) introduced in the Integrated Product Policy (IPP) announced by the European Commission in February 2001 brought about a significant change in the orientation and design of environmental regulations. LCT seeks to reduce the burden on the

environment at every stage of a product's lifecycle, from raw materials to manufacture, transportation and scrapping. Regulations designed on the basis of this way of thinking will have an effect throughout company supply chains. This means that the manufacturer of a finished product, upstream companies that supply parts to that manufacturer, and their upstream companies will all be affected by the regulations as long as the EU is the destination for their finished products.

The basic principles of the new environmental regulations have also had a significant influence on the orientation and design of the regulations. There are four basic principles: 1) the "polluter-pays" principle; 2) the precautionary principle; 3) the preventive principle; and 4) the principle of rectification at source. Of these, the polluter-pays principle places the responsibility of assessing the risk of chemical substances, treatment of waste products, etc., on companies, and has a direct effect on management methods and other practices. For example, the WEEE Directive obliges manufacturers to collect and dispose of waste products, based on this principle.

If these new types of regulations are able to contribute sufficiently to the protection of the environment, then they should be welcomed from the perspective of sustainable development. However, if the regulations place excessive restrictions on company activities, businesses will suffer. Environmental regulations are tending to become increasingly stringent. For companies, in addition to pushing ahead with modification of product design and manufacturing methods in order to ensure that they do not lose profitability, it will be essential to actively participate in the formulation of rules by the EU to prevent regulations from becoming an impediment.

■ WEEE and RoHS expected to be revised extensively

The WEEE Directive seeks to reduce the amount of waste electrical and electronic equipment through reuse, recycling, and energy recovery. To this end, EU member nations and companies are requested to establish collection and recycling systems for WEEE products. The RoHS Directive prohibits in principle the use of six substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBBs), and polybrominated diphenyl ethers (PBDEs)), and requires substitutes to be employed.

The WEEE and RoHS Directives went into effect in August 2005 and July 2006, respectively, and numerous problems have surfaced since then. Issues relating to the effectiveness of the regulations have been pointed out. For example, the rate of collection of WEEE under the regulations is only one-third the total amount of the corresponding equipment sold. In addition, it is observed that EU member nations differ in the volume of collection of waste equipment. According to European Commission documents, in 2006 14.4 kg of waste equipment was collected per person in Sweden and 11.1 kg was collected in Denmark, nations which have been traditionally known for their high level of environmental awareness. By contrast, only 0.3 kg and 0.4 kg were collected per person in France and Portugal, respectively. In Rumania, a nation at a lower technological level, the figure was 0.1 kg per person.

In the case of the RoHS Directive, problems are stemming from ambiguous definition of the products subject to the regulations. For companies, uncertainty as to whether their products are subject to the regulations is a major issue, and calls to clarify the definition have been frequently heard. In addition, problems in the enforcement of the regulations have been indicated, with numerous products that do not conform to the RoHS regulations.

The WEEE and RoHS Directives will be reviewed every four years. The European Commission prepared draft revisions in December 2008 mainly in order to rectify the problems discussed above, and has submitted them to the European Parliament and the European Council. The revision of the WEEE Directive scraps the collection target of 4 kg of

waste equipment per person, replacing it with a collection target of 65% of the averaged weight of all electrical and electronic equipment sold in the preceding two years. This can be seen as a measure to respond to the differences between member nations in terms of the volume of waste equipment collected per person. This target figure will become mandatory from 2016. In addition, target figures have been increased by 5% each in the case of the energy recovery rate (originally 80%), reuse rate (originally 75%), and recycling rate (originally 75%) stipulated for the products subject to the regulations. In addition, the RoHS Directive, based on Article 95 of the EC Treaty (concerning harmonization within the European Community) has been used as a reference in an attempt to eliminate the differences between the lists of products subject to the WEEE regulations formulated by EU member nations. These differences originated from the fact that the regulations had previously been based on Article 175 of the EC Treaty (dealing with environmental protection), enabling member nations to freely add products to their lists.

The revision of the RoHS Directive contains a list of products that defines the scope of the regulations. In addition to the eight product groups that were originally subject to the regulations, the revision adds WEEE Category 8 (medical devices) and Category 9 (monitoring and control instruments), which were previously not subject to the RoHS regulations. Moreover, in the initial stages of formulation of the revision, the introduction of four new prohibited substances (hexabromocyclododecane (HBCDD), di(2-ethylhexyl) phthalate (DEHP), butyl benzyl phthalate (BBP), and di - n - butyl phthalate (DBP)) in addition to the six already prohibited by the regulations was considered, but this was set aside as a matter for future study. In other revisions, monitoring of products after they have reached the market has been enhanced, and products must now display a CE Mark (a label indicating compliance with harmonized standards based on EU directives and regulations) issued by a conformity organization.

In future, the draft WEEE and RoHS revisions will go through the co-decision procedures (the EU procedures for the enactment of laws) and will officially go into effect. Corrections may be made to the revisions in the course of the co-decision procedures. Sweden, a nation with an impressive record in environmental protection, will take the Presidency of the EU Council from July 2009. The possibility that the ultimate revisions may apply very stringent conditions to companies therefore cannot be ignored.

■ REACH registration, the critical stage for business

REACH is a set of regulations that ultimately controls the production and sale of chemical substances, requiring companies to register chemical substances and perform safety evaluations. Companies which produce and sell one tonne or more of chemical substances or which import the same quantity of chemical substances from outside the EU, are required to register those substances. The regulations went into effect in June 2007, and pre-registration of chemical substances was conducted between June and December 2008. Full registration will be required to be conducted in the future by deadlines stipulated on the basis of the annual volume of production of the substance concerned.

REACH contains a set of rules that are entirely new to business, and many companies are confused as to how to respond. REACH differs from existing chemical substances regulations in a number of points, as follows: 1) The regulations do not simply cover chemical substances, but also products in which those substances are employed, such as electrical and electronic products; 2) existing chemical products are subject to the regulations in addition to new chemical substances; 3) registration is not by substance but by use; and 4) the regulations include a supply chain obligation. This latter point requires upstream companies (chemical manufacturers) to provide information on chemical substances to downstream companies (companies that produce compounds of two or more chemical substances), and in the

opposite direction, product manufacturers to provide information on the use of chemicals in products to the manufacturers of compounds and chemicals. As company supply chains become increasingly international, it will be no easy task to create information-sharing systems on a global scale.

REACH is also a new experiment for the European Commission, and it is fumbling its way forwards in putting the regulations into effect. For this reason, there are still numerous vague areas in the regulations and frequent changes, making it difficult for companies to respond.

In addition, companies outside the EU are unable to directly register chemical substances, and must request the EU-based importer (in many cases a subsidiary of the non-EU company), a consulting company or other company able to act as an "Only Representative" (OR) to conduct the registration procedures as a proxy. Problems could easily arise here when non-EU producers of chemical compounds purchase chemicals from chemical manufacturers in their own countries and export compounds to the EU. In this case, unless the chemical manufacturer or the chemical compound manufacturer has an EU importer or an OR act as a proxy in registering the chemical compounds, the chemical compound manufacturer will be unable to export its product to the EU. If it seeks to continue exporting, the chemical compound manufacturer has the choice of requesting the chemical manufacturers from which it obtains products to register the substances it produces, to register the substances itself, or to purchase chemicals from a chemical manufacturer that has already registered the substances it produces (irrespective of whether the company is based in the same nation or not). As part of their marketing strategies, some Japanese chemical manufacturers have pre-registered even substances that they do not directly export to the EU, taking their relationship with the chemical compound manufacturers that form their clients into consideration.

For full registration, companies that manufacture the same substances are required to create Substance Information Exchange Forums (SIEF), and to submit the required documents, including evaluations of the harmfulness or safety of chemical substances. According to the European Chemicals Agency (ECHA), with which chemical substances must be registered, more than 50,000 Pre-SIEF have been formed to coordinate the formation of the SIEF, and there are more than 100 Pre-SIEF with more than 1,000 participating companies. It is therefore predicted that the operation of the system will not be an easy matter.

Against this background, some European companies have already hired toxicologists and conducted tests on the harmfulness of chemical substances, preparing to sell the data to other companies. By contrast, Japanese companies are expected to have a difficult time with the SIEF. SIEF are formed by competing companies, and while it is necessary for companies outside the EU to participate in SIEF by means of importers (local subsidiaries) or OR, it will not be clear to these companies to what extent their opinions are reflected in the SIEF, and they will find it difficult to proceed with negotiations on issues such as appropriate distribution of testing costs.

It is possible that REACH will cause companies to reevaluate their business plans. If the cost of complying with the regulations is too high, some companies may cease exporting to the EU. There is also the possibility that EU-based companies that had previously purchased their chemical supplies from companies outside the region may begin to source their requirements from companies within the EU if non-EU companies are too slow in responding to the regulations.

■ Eco-design regulations: A new EU initiative

The EuP Directive seeks to contribute to sustainable development and the stable supply of energy by promoting consideration of the environment at the design stage of energy-using

products (eco-design) and the achievement of increased energy efficiency. “Energy-using products” are products that are dependent on energy resources, or products that produce, transfer, or measure energy. A wide range of electrical and electronic equipment is subject to the regulations, taking in boilers, PCs, photocopy machines, televisions, office lighting, air conditioners, and refrigerators. Japanese companies have developed sophisticated energy-saving technologies as a result of the “top runner” system, and skillful use of the EuP regulations, one of the purposes of which is to promote energy-saving products, could enable them to boost their competitiveness.

The EuP Directive went into force in August 2005. This was the framework directive, which established general principles such as conditions and standards. Since then, concrete implementing measures for each product group have been defined in sequence. When the implementing measures have been formulated, the process of establishing harmonized regulations based on the “New Approach” concept (the formulation of regulations by EU standardization bodies) will begin. Companies will ensure that their products comply with these regulations, and will market products displaying the CE Mark as proof compliance.

The European Commission has to date conducted product surveys to enable the formulation of implementing measures, and consultative forums have been held involving various stakeholders, including the European Commission and companies. Eco-design requirements for the standby and off modes of electrical and electronic household and office equipment were announced by the Commission in December 2008; for computer set-top boxes in February 2009; for household and office lighting, street lighting, and factory lighting in March 2009; and for external power supplies in April 2009.

The successive introductions of the implementing measures for the EuP Directive have therefore taken place, and at present numerous products and functions are under review. The demands of companies will be taken into consideration through consultation forums until the announcement of each implementing measure. Japanese companies, which have experienced difficulties in responding to the RoHS regulations, are actively lobbying the European Commission and other bodies through the Japan Business Council in Europe (JBCE) in order to influence the development of the rules. The JBCE has formulated joint guidelines and presented petitions to the European Commission in collaboration with DIGITALEUROPE (until March 2009 known as the European Information & Communications Industry Association (EICTA)) and other U.S. and EU organizations. For example, the regulations state that power consumption in standby mode must be 0.5 watts or less, but this is not a realistic demand for companies. This regulation was initially intended to go into effect three years following the announcement of the implementing measures, but the JBCE lobbied to have the regulations go into effect within a period of three years dated from one year after the end of the period of grace, and this amendment was ultimately included in the implementing measures.

This period is one of continuing agitation for Japanese companies. The Action Plan for Sustainable Consumption, Production and Industry announced by the European Commission in July 2008 proposed that the scope of the EuP regulations be expanded from energy-using products to all energy-related products (ErP). Products which do not themselves use energy but indirectly affect energy consumption would become subject to the regulations. This would include, for example, products and materials used in building, such as windows and insulating materials, and products related to water use, including faucets and shower heads. In addition, the European Parliament is moving towards making all products subject to the regulations. It will be essential for Japanese companies to participate in the formulation of the rules by making their opinions heard through the JBCE and other business organizations.

■ How should EU product environmental regulations be dealt with?

Companies are beginning to develop a greater understanding of EU's environmental regulations. Environmental specialists at BUSINESSEUROPE, one of the EU's major business associations, have indicated a change in the environmental awareness among EU companies. Companies vigorously resisted the implementation of environmental regulations in the past, but today they are largely accepted.

However, situations in which companies are burdened due to flaws in the laws themselves or in their administration can still be observed. Ambiguity has been indicated as one of the specific problems of EU laws. There are cases in which the ambiguity in texts makes it difficult for companies to judge whether they comply with the regulations appropriately or not. It is not only Japanese companies that have experienced difficulties as a result of this aspect of EU law. BUSINESSEUROPE's environmental specialists claim that EU companies also view the ambiguity of regulations as a problematic issue.

Communication between companies and the European Commission will be essential to dealing with issues of ambiguity and laws that do not coincide with business realities. Officials of the European Commission's Environment Directorate-General have stated that opinions and requests from companies are vital to the formulation of draft laws, and that companies should actively involve themselves in the process. They also encourage Japanese companies to indicate their expectations through the Japanese government and industry organizations.

The JBCE is requesting Japanese companies to respond as quickly as possible to the EU regulations. The EU policy-making process involves two procedures, co-decision and comitology (Figure II-3). European Commission proposals regarding common market-related EU directives or regulations are ratified by the European Council and the European Parliament after going through the co-decision procedure.

Decisions made by the European Commission go through the comitology procedure in which the details of laws established by the co-decision procedure are determined. In EuP, for example, the decision on the framework directive was made via the co-decision procedure, but the concrete implementing procedures for each product will be decided through the comitology procedure. Some Japanese companies have started gathering information from the stage of the comitology procedure, and are studying guidelines for response and potential business changes when the regulations are implemented in each EU member nation. This mode of response is too slow. What is required is for companies to start gathering information from the stage of publication of the green papers indicating the orientation of the European Commission, and to present petitions, etc., at the stage of formulation of policy proposals by the European Commission (during preparatory surveys, etc.) prior to the co-decision procedure; i.e., to work in tandem with the policy-making process. Only by making active efforts of this type can Japanese companies begin on the same footing as EU companies.

In addition, rapid and flexible business decisions are essential to doing business successfully in the EU. In the SIEF convened in connection with the REACH regulations, companies must express their requirements, and ensure that their opinions are incorporated in the final output. Flexible decision-making responsive to the direction of the SIEF will be demanded. The JBCE Secretariat therefore advises Japanese companies operating in the EU to place reliable staff members in their European operations to enable this type of rapid judgment and decision-making. It is essential for Japanese companies to assign resident personnel to the EU to collect and make available information and to conduct lobbying activities. There are significant differences between the ways in which business is conducted in the EU and in Japan, where the government decides the details of regulations early in their process of establishment. It is necessary for Japanese companies to understand this, and to build systems enabling them to put rapid responses into effect. At the least, Japanese companies must enhance their capacity to respond to EU regulations.

■ **EU product environmental regulations spreading all over the world**

EU environmental regulations are spreading globally. The U.S., Japan, China, South Korea, Thailand, Vietnam, and Turkey have all introduced regulations resembling the RoHS, WEEE, and/or REACH regulations (Figure II-4). At least three potential mechanisms can explain partly this tendency. The first mechanism is the diffusion of regulations through the conclusion of international conventions. The Action Plan emerging from the World Summit on Sustainable Development (the 2002 Johannesburg Summit) included a provision regarding the sound management of chemical substances and toxic wastes, with consideration of product lifecycles. This resonates with the concepts behind the EU's supply chain regulations based on LCT. Later, the revision of Japan's Act on the Evaluation of Chemical Substances and Regulation of their Manufacture, etc., was influenced by this provision of the Johannesburg Summit Action Plan.

== Figure II-4 ==

The second mechanism is via actual trade. The EU boasts the world's largest market, and can therefore influence countries outside the region through trade. Non-EU companies exporting to the EU manufacture their products to satisfy stringent EU standards. At the same time, they also apply these EU standards to products they manufacture for the domestic market or for markets other than EU countries, because costs would increase if they were to use different manufacturing methods for products aimed at different markets. In some cases, this will mean that the products manufactured to EU standards will be less price-competitive than equivalent products manufactured by other companies in accordance with the more relaxed domestic standards. If this is the case, the national government and companies in the country will have an incentive to introduce regulations at the same level as the EU regulations. This incentive will be greater the stronger the trade relationship of the country with the EU. This way, EU Environmental regulations can spread into foreign countries.

Diplomatic efforts conducted by the EU are the third way in which standards can be diffused. An official of the European Council's Environment Directorate-General have indicated that it will be important to establish a level playing field on a global scale. BUSINESSEUROPE specialists also stress the need to promote global diffusion of environmental regulations. Working directly with countries outside the region, for example engaging in bilateral cooperation programs in particular with developing nations, will be important to achieving this goal.

California is more environmentally aware than any other states in the U.S., and under the leadership of Governor Arnold Schwarzenegger, the state government has implemented a wide range of environmental policies. The Electronic Waste Recycling Act (SB20), dealing with the recycling of electrical and electronic products, enacted in September 2003. Following this, the Act was partially revised to incorporate elements of the EU's RoHS regulations, and SB20/SB50 went into effect in January 2007. The revised Act prohibits the sale of products such as notebook computers if they contain more than a specified quantity of the chemical substances that are subject to the regulations.

The introduction of the EU environmental regulations is not limited to California. While regulations concerning the recycling of electrical and electronic products are presently limited at the federal level, their introduction is proceeding at the state and municipal levels (Figure II-5). In almost all of these states and municipalities, there has been a partial introduction of the polluter-pays principle, and laws have been established placing the burden of recycling televisions and computers on the manufacturers of the products.

== Figure II-5 ==

However, the introduction of different regulations in each state will increase the burden on manufacturers. Intel, for instance, views increases in costs for the formulation of documents, testing, etc., if different standards are put in place among states as a problematic issue. For this reason, the electronics industry is lobbying the Senate for the introduction of unified federal regulations.

California itself has not rested with the SB20/SB50, but has also introduced a Green Chemistry Initiative (GCI) modeled on EU's REACH regulations. The purpose of the GCI is to impose regulations that will reduce the effect of toxic substances, not merely when a product is scrapped, but at every stage of its lifecycle, including production and use. These regulations would therefore have an effect on the total supply chain. In a major step towards the realization of the GCI, the bills AB1879 and SB509 were signed into law in September 2008. By January 2011, the California Department of Toxic Substances Control (DTSC) must establish a system for the identification of chemical substances and chemical components in products, and for the evaluation of substances of concern to enable the potential for exposure and the level of danger to the public to be reduced. The use of substances of concern will be restricted or prohibited. The DTSC will therefore collect information regarding chemical substances from all over the U.S. and the rest of the world, and will publish this information in an Internet database to make it available to consumers. Other U.S. states are watching trends in the GCI carefully, and there is a possibility that the initiative might in the future spread throughout the country, as in the case of recycling regulations.

EU environmental regulations are also seen in Japan. The first to be considered here is the Japanese version of the RoHS regulations. The Law for Promotion of Effective Use of Resources (1991) was revised in July 2006 to incorporate a requirement for "marking for presence of the specific chemical substances for electrical and electronic equipment" (J-MOSS). The six chemical substances subject to the regulations (lead, cadmium, etc.) are identical to those subject to the RoHS regulations. However, the Japanese regulations do not restrict the use of the specified substances as in the case of RoHS, but require a mark to be applied to products in which the substances exceed a predetermined level, instead. The Japanese regulations are also less strict than RoHS, being limited to seven products (including personal computers and refrigerators) rather than almost all electrical and electronic products as in the case of RoHS.

A Japanese version of the REACH regulations has also appeared. A draft revision of the Act on the Evaluation of Chemical Substances and Regulation of their Manufacture, etc., (1973) was approved by the Diet in May 2009, and is scheduled to go into effect within one year. The statement of the purpose of the revision references the agreements made at environmental summits such as the Johannesburg Summit to minimize the effects of chemical substances on human beings and the environment, and in this the influence of international trends can be seen.

All chemical substances are subject to the revised Act on the Evaluation of Chemical Substances and Regulation of their Manufacture, etc., and companies which manufacture or import a specific amount or more of chemical substances (the figure of one ton is planned) will be required to notify the government. Harmful substances among those reported will be subject to a safety evaluation, and as necessary the company will be asked to submit data regarding their level of toxicity. If any concerns exist regarding the potential effect of the substances on living things based on the results of the safety evaluation, the substances will be nominated as designated substances, and permission will be required for their manufacture or importation.

The revised Act, like the REACH regulations, is a mechanism that will promote the

development of systems for information exchange throughout company supply chains. Although to date downstream companies (product manufacturers) have been able to make queries to upstream companies (chemical manufacturers), there has previously been no regular provision of information by upstream companies to downstream companies in Japan. The revised Act will effectively require the exchange of information in both directions. The establishment of systems for the exchange of information throughout supply chains is now being demanded from a variety of directions, such as the promotion of information exchange systems by the Joint Article Management Promotion-consortium (JAMP).

With China's rapid industrialization having a steadily worsening effect on its rivers and air in the recent years, the environment has come to occupy a more important position in terms of national policy. At the same time, interest in EU environmental regulations is increasing in the nation.

China promulgated the Measures for Administration of the Pollution Control of Electronic Information Products in February 2006, and the law went into effect in March 2007. This law is similar to EU's RoHS, and is also called the "Chinese RoHS." While the subjects of the regulations are the same six substances targeted by the RoHS regulations, the Chinese measures have two distinct aspects. First, companies are required to display information concerning the regulated chemical substances on products when they exceed specific threshold values. Second, products listed on a "Catalogue for Priority Controls" must receive China Compulsory Certification (CCC).

In addition, China is currently formulating a law concerning the collection and disposal of electronic waste. The objectives of this law are to increase the rate of collection of electronic waste, to operate recycling plants using funds provided by manufacturers and regional governments, and to improve recycling technology through the construction of model plants and other measures.

A trend such as this one in Japan's largest trading partner will have a more direct effect on Japanese companies than that in the EU. As the establishment of supply chains between companies in both nations picks up pace, cooperation between these companies is likely to become increasingly important.

The regulations that have recently been introduced or are scheduled to be introduced around the world have in the major part been regulations concerning recycling or chemical substances. The characteristics of the individual regulations may vary, but they have all undoubtedly been significantly influenced by EU's environmental regulations.

It is possible that in future the EuP regulations might also diffuse around the world, given that the EU is promoting a policy of international standardization of EU regulations. The harmonized standards that will form the foundation of the EuP's implementing measures are being formulated on the basis of the new approach by standards bodies such as the European Committee for Electrotechnical Standardization (CENELEC). The standards formulated in this process will be diffused around the world by a variety of media, including 1) international standards organizations (for example the IEC and the ISO), 2) de facto base through actual trade, 3) mutual recognition agreements (MRA), and 4) technological aid to developing nations.

The various laws and their associated procedures that have been implemented around the world, influenced by the EU environmental regulations all differ from one another and it is not the case that a company which complies with the EU regulations will therefore find it easy to comply with these other regulations. However, in many cases, the threshold values and the substances and products that are subject to the regulations are the same, or standards are not as stringent as found in the EU regulations. The information exchange systems developed to respond to the RoHS and REACH regulations will also be of practical value in responding to other regulations. For Japanese companies, it will be essential to prepare for

international standardization by sufficiently adopting their products to the EU regulations.

(3) Ongoing Liberalization and Regulation of Investment and Services by means of FTAs and Investment Agreements

The liberalization and establishment of regulation in the fields of investment and services is proceeding through the medium of FTAs and bilateral agreements. A variety of WTO agreements regulate investment and services, including the General Agreement on Trade in Services (GATS) and the Agreement on Trade-Related Investment Measures (TRIM). However while GATS provides for national treatment, most-favored nation treatment, and market access in the area of services, there are numerous exceptions, and it does not cover manufacturing. TRIM is also limited to certain prohibitions on performance requirements, such as local content requirements and import-export equilibrium requirements. The scope of WTO regulation in the areas of investment and services is therefore limited.

Against this background, countries with a high degree of concern in the area of investment (countries in which a large amount of investment is conducted, countries in which investment is concentrated in resources, etc.) are concluding investment agreements or are including chapters dealing with investment and services in their FTAs. With the Doha Round stalled, and investment not forming part of the negotiations in the Round, liberalization and regulation in the area of investment and services is proceeding through the framework of investment agreements and FTAs.

Investment agreements may incorporate either investment protection or investment liberalization, or may contain both elements. In addition to national treatment and most-favored nation treatment following the approval of the investment, investment protection normally provides for compensation for expropriation, fair and equitable treatment, and the resolution of conflicts between the nation and the investor in the event of nationalization. Investment liberalization incorporates national treatment, most-favored nation treatment, and the prohibition of performance requirements prior to the approval of the investment, among other elements. National treatment, most-favored nation treatment, and the prohibition of performance requirements are also covered in GATS and TRIM, but investment agreements extend these elements to the manufacturing sector, and make them binding at a higher level. The WTO does not provide for the resolution of conflicts between the investor and the nation, or for fair and equitable treatment. Investment agreements thus incorporate wide-ranging WTO-plus content.

According to the United Nations Conference on Trade and Development (UNCTAD), 2,608 bilateral investment agreements had been concluded worldwide as of 2007. European countries have been the most prolific in terms of concluding investment agreements, with Germany having signed 135 agreements, Switzerland 114, France 99, and Holland 95.

Despite previously having concluded comparatively few such agreements, Japan has recently rapidly increased its volume of investment agreements. Japan has concluded a total of 24 investment agreements, comprising 15 bilateral investment agreements (of which 13 are in effect) and nine investment chapters in FTAs (of which eight are in effect). In 2008, investment agreements were signed or went into effect between Japan and Laos (effective August 2008), Uzbekistan (signed August 2008), and Peru (signed November 2008). Comprehensive negotiations are necessary to conclude agreements like FTAs, which cover a broad range of fields, but the negotiations for investment agreements, which cover only services and investments, can be concluded more quickly. The Japanese government therefore flexibly uses FTAs and investment agreements as convenient. The government has indicated that it intends to actively formulate investment agreements with resource-producing nations, and with nations and regions in which Japanese companies have established bases. The nation is therefore expected to conclude investment agreements at an accelerated pace in future.

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Column II-1 U.S. measures to suspend NAFTA truck transport provision

The provision in the North American Free Trade Agreement (NAFTA) concerning mutual truck transport privileges between the U.S. and Mexico is a case in which liberalization is treated in the investment and services chapters of FTAs.

Under the terms of NAFTA, trucks transporting goods from Mexico are able to travel throughout the U.S. from 2000. However, this provision generated opposition in the U.S., and its implementation was postponed. The governments of both nations agreed to commence a trial program granting mutual truck transport privileges from 2007, and planned to formally establish mutual truck transport following the conclusion of the test period at the end of August 2010. However, the Obama administration cut the budget for the trial program in the national budget published in March 2009. This made the trial program impossible to continue, and put the establishment of formal rights on hold. There is opposition to the scheme from environmental organizations and trucking unions on the U.S. side.

The Mexican side declared that the U.S. measures are in contravention of the terms of NAFTA, and introduced countermeasures in March 2009, eliminating preferential tariffs on 89 U.S. agricultural and industrial products.

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(4) How Can We Sell to the World's Largest Market of the U.S. Government Procurement

The WTO Agreement on Government Procurement (GPA), which went into effect in 1996, provides for the liberalization and regulation of government procurement in international trade. Signatory nations must provide national treatment, fair and transparent transactions, and complaint notification procedures, and must eliminate local content requirement.

However, the GPA has its limit compared to other WTO agreements. Only 14 nations and regions are signatories to the agreement[2], and they are free to apply their own terms other than within the specified scope of the agreement and in relation to the organizations subject to the agreement. Against this background, there is considerable resistance to the liberalization and regulation of government procurement. For security reasons, or from considerations of the protection and fostering of domestic industry, systems related to government procurement generally display a low level of transparency, and give preferential treatment to bids involving domestic or local products. For this, government procurement was for an extended period treated as an exception to the principle of national treatment in GATT era.

The U.S. is no exception to this general trend. The nation still applies the provisions of the Buy American Act of 1933, which stipulates the use of U.S.-made goods and materials and the addition of an extra 6-12% to the cost of overseas products when bids are evaluated. In addition, laws concerning the budgets of federal government organizations (the Department of Defense Appropriations Act, 2007, the Homeland Security Appropriations Act, the American Recovery and Reinvestment Act of 2009, etc.); laws concerning the purchase of heavy transport equipment, including the Safe, Accountable, Flexible, and Efficient

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[2] The signatories to the WTO Agreement on Government Procurement are Japan, the U.S., the EU27, Canada, Hong Kong, South Korea, Israel, Liechtenstein, Norway, Aruba, Singapore, Switzerland, Iceland, and Taiwan. China is among other nations presently involved in negotiations to become a signatory to the agreement. China presented an initial offer in December 2007, but the U.S. was critical because government services were not included in the scope of liberalization, the majority of state-owned companies were excluded, a transitional period of 15 years was set, and regional governments were not included.

Transportation Equity Act and the Rail Passenger Service Act; and other laws at the regional level all have provisions for the preferential treatment of nationally as well as locally-produced goods.

The U.S. government procurement market is enormous, representing approximately 11% of the nation's GDP at more than USD 1.3 trillion (averaged for FY2004-FY2006). This figure is almost equivalent to the GDP of Brazil. In addition, the American Recovery and Reinvestment Act enacted in February 2009 adds approximately USD 7.07 billion in environment-related projects, a significant opportunity for non-U.S. companies against the background of this prolonged recession. However, this enormous market is protected by the laws mentioned above. Some nations and regions have secured access to the market through the WTO GPA or FTAs with the U.S., but the basic stance of the U.S. remains "Buy American." For example, a report to the Senate by the Department of Defense states that of the Department's total procurement expenditure for FY2008 (approximately USD 396 billion), foreign goods and services represented only 6% (approximately USD 23.7 billion, of which approximately USD 504 million, used for the procurement of Japanese products). The ratio of non-domestically sourced goods and services procured by the Department of Commerce was similarly low in FY2008, representing only 7.2% (approximately USD 1.2 million) of a total expenditure of approximately USD 16 million.

Nations and regions throughout the world seek to complement the inadequate WTO GPA by demanding the opening of the partner country's government procurement market through FTAs. For example, when the U.S. negotiates an FTA with a nation which is not a signatory to the GPA, it requests almost identical level of liberalization and regulation of the government procurement market as specified in the GPA. If the partner country is a signatory to the GPA, the U.S. requests a higher level of liberalization than provided for in the agreement. Considered from the perspective of countries which are discriminated against in the U.S. market because they are not signatories to the GPA, the establishment of an FTA with the U.S. represents an opportunity to gain access to that nation's enormous government procurement market. Australia is not a signatory to the GPA, for example. Thus, the Australian companies had been suffering their competitive disadvantages in the U.S. market. When the U.S.-Australia FTA went into effect in January 2005, Australian companies and products became exempt from the terms of the Buy American Act. As a result, Australian companies receive national treatment when making a bid of a specific value or higher in the U.S. government procurement market.

The waiving of the application of the Buy American Act to Australian companies by the federal and some U.S. state governments has increased opportunities for those companies to participate in the U.S. government procurement market. According to the report to the Senate by the Department of Defense, the Department's procurements within the framework of the U.S.-Australia FTA totaled approximately USD 16 million in FY 2005, approximately USD 52 million in FY 2006, and approximately USD 4 million in FY 2007.

Supplementing the limited WTO GPA and eliminating discrimination against non-signatory nations by means of FTAs expands opportunities for companies to participate in the government procurement market of the partner country, leading to the expansion of trade.

(5) Protection of Intellectual Property Rights – Discussions are Moving Ahead

■ TRIPS agreement established an international standard for the protection

Intellectual property rights (such as patents and copyrights) are today a vital aspect of the infrastructure enabling trade and foreign direct investment. Adequate protection of intellectual property rights enhances the urge to create, and thus propels invention and technological development. Insufficient protection of intellectual property rights, by contrast,

can lead to the proliferation of cheap, counterfeit goods and services. To what degree intellectual property rights are protected is an important factor in determining the course of business evolution.

International frameworks for intellectual property rights were formulated from the 19th century, mainly in European countries, with the intention of harmonizing the intellectual property laws of different nations. The *Paris Convention for the Protection of Industrial Property* and the *Berne Convention for the Protection of Literary and Artistic Works* are representative examples. Intellectual property issue was taken up for the first time as a part of negotiation agenda in the Uruguay Round, at the urging of the United States. The outcome was the *Agreement on Trade-related Aspects of Intellectual Property Rights* (TRIPS), an agreement specifying comprehensive regulations concerning intellectual property rights. The agreement went into effect in 1995 and became enforceable following a year transition period for developed countries, and a five-year transition period for the developing countries.

The TRIPS has been applauded for its role in establishing a minimum standard for protection shared by all members and in setting up an effective procedure for settling disputes. TRIPS agreement obliges members to observe existing international laws such as the *Paris Convention* and the *Berne Convention*, and to establish further protections and procedures for the exercise of rights at a higher level than specified in existing laws. In addition to this, single undertaking enables the use of unified conflict resolution procedures, making TRIPS a groundbreaking document in comparison to other agreements related to intellectual property.

To date, 28 TRIPS-related cases have been brought before the WTO. The majority of these occurred prior to 2000, and represented complaints by developed countries against developing countries focusing on the national treatment and most-favored nation treatment, and those between developed countries, for which the performance obligation applied soon after TRIPS came into effect. However, there have been few conflicts more recently regarding the violations of the agreement, mainly due to the framework agreement-like nature of TRIPS.

■ Using FTAs to achieve TRIPS-plus

FTAs are used as a method of supplementing the WTO also in the area of intellectual property. Developing countries were originally unenthusiastic about discussing on intellectual property rights in the WTO, and they have been dissatisfied since the TRIPS agreement came into effect, seeing the intellectual property institution as imposing a burden. For example, the EU and other countries have pushed for discussion of enforcement in the WTO since 2005, but developing countries have continued to oppose the idea. The developed countries, on the other hand, feel that the establishment of related laws has been proceeding in the majority of countries as a result of TRIPS, but view the flooding of infringed and pirated products as a problematic issue. As coordinating members' interests has become more complicated within the multilateral negotiations at the WTO, there has been a trend toward using FTAs which are more flexibly negotiated, to secure intellectual property protection. Clauses concerning intellectual property are incorporated in almost all of the FTAs concluded by developed nations and regions such as Japan, the U.S., and the EU.

The U.S. has been particularly active in having original intellectual property-related clauses included in FTAs, and has worked to create international norms through bilateral negotiations. The fact that the U.S. has filed the most intellectual property-related complaints to the WTO, suggests how seriously the nation takes the issue.

The intellectual property provisions of FTAs are highly diverse, but clauses that specify a higher level of protection than TRIPS are generally termed TRIPS-plus. The U.S. is putting in place a broad range of TRIPS-plus conditions via the conclusion of FTAs (Table II-12). The most conspicuous feature of the intellectual property-related clauses incorporated by the U.S.

is enhanced protection of copyright and test data concerning medical devices. In the case of copyright, the U.S. has stipulated extension of the period for copyright protection, prohibitions on the avoidance of technical methods of protection[3], and the signing of copyright-related agreements, among other measures. In the case of test data, measures include the specification of protection periods for unpublished test data and demands for the patentability of animals and plants (excluding microorganisms), which are not subject to patents under the terms of TRIPS. Other TRIPS-plus items apply a restricted interpretation to clauses in TRIPS which has some degree of flexibility[4]. Behind these measures is pressure from the film, music, and pharmaceutical industries, for which the protection of intellectual property is a serious issue.

== Table II-12 ==

However, this increased level of protection of intellectual property rights in U.S. FTAs has also been criticized as a potential impediment to future international harmonization in the area. For example, there are cases in which details that have not yet been decided on a multilateral level have been codified in FTAs, such as the principle of exhaustion of rights[5], which was set aside in discussions leading up to the formulation of TRIPS. The U.S.-Singapore FTA allows restriction of parallel imports (non-acceptance of the principle of international exhaustion of rights) if specific conditions are satisfied.

The enhancement of the protection of intellectual property through the formulation of FTAs with third countries like the U.S. may influence Japan's intellectual property strategies in future. Unlike tariffs and services, for which discriminatory treatment is allowed, the intellectual property agreements specified in FTAs should in principle apply with the same conditions to other member nations, within the scope of Article 4 of TRIPS (concerning most-favored nation treatment). This means that when other nations specify intellectual property-related rights and privileges in an FTA, Japan will also receive those rights and privileges. On the other hand, the possibility also exists that the U.S. or a nation which has concluded an FTA with the U.S. may, in future FTA negotiations with Japan, demand similar high-level protection of intellectual property. Given this, it will be essential to monitor trends in TRIPS-plus conditions in the U.S.

Excluding the nation's FTA with Mexico, all of Japan's FTAs include a chapter dealing with intellectual property. However, in almost all cases, the treatment of issues such as the facilitation of procedures and the bolstering of cooperation and enforcement represents an enhancement or clarification of items in TRIPS. Japan's FTAs do not incorporate new rules not specified by TRIPS or demand large-scale changes to existing systems, as in the case of the provisions of U.S. FTAs. However, Japan's FTA with Switzerland, signed in February

[3] Technological methods for the prevention of copyright violation, such as copy control to prevent digital copying and access control that restricts viewing, etc., through the use of encryption.

[4] For example, Article 31 of TRIPS provides for compulsory licensing of pharmaceutical patents (under specific conditions, rights for the use of the subject matter of a patent can be granted to third parties without the authorization of the holder of the right), but the scope for authorization of compulsory licensing is narrower in the U.S.-Singapore FTA than in TRIPS.

[5] The doctrine of exhaustion of rights states that the holder of an intellectual property right or an individual or entity which has been granted a license loses certain rights after the subject matter of the right or license is first sold in a market. The international acceptance or non-acceptance of the doctrine of exhaustion of rights was a point of contention in the Uruguay Round, and TRIPS ultimately did not incorporate either position (Article 6).

2009, does incorporate a high-level regulation pertaining to the intellectual property field, including limitation of the responsibility of internet service providers. The agreement is therefore a pioneering document in relation to ACTA (to be discussed below), and is expected to serve as a model for the intellectual property chapters of future FTAs.

■ **Progress on plurilateral rule creation**

As discussed above, nations around the world are seeking to guarantee the protection of intellectual property through FTAs, with TRIPS as the foundation. Against this background, there were opinions that TRIPS specifies only the most basic standards, and lacks effectiveness in terms of the actual implementation of rights[6]. In addition, considering not merely the proliferation of counterfeit and pirated goods but also the increasing complexity of the routes of diffusion of these goods, the systematization of their suppliers, and the threat to safety that they represent, a situation is developing in which TRIPS and FTAs alone will not be sufficient to prevent negative impacts on a global scale.

Given this, negotiations are currently proceeding on the Anti-Counterfeiting Trade Agreement (ACTA) as a more effective multilateral framework. Formal negotiations commenced on the initiative of Japan in June 2008, and the process aims for a conclusion by 2010. At present, 11 nations and regions with a high level of interest in the protection of intellectual property rights participate in the negotiations[7]. The objective is first to formulate a text between countries sharing common goals. This text will be extended by stages to other participating nations, and will ultimately form the basis for future multilateral regulation of intellectual property rights.

According to a summary of elements under discussion in ACTA negotiations published in April 2009, the agreement will not seek to replace TRIPS, but to establish more concrete and robust regulations. The agreement is expected to incorporate effective measures to promote international cooperation in areas such as the exchange of statistical data and best practices and capacity-building in developing nations, and to support the exercise of rights, including border measures, civil enforcement measures, criminal enforcement measures, and measures for the protection of intellectual property in the digital environment.

(6) Current Issues of Competition Law

The effect of anti-competitive activities such as the formation of international cartels and corporate mergers on the competitive environment in specific nations and regions cannot be ignored, and competition authorities have recently intensified their oversight and surveillance throughout the world. Cases in which the business activities of Japanese companies have been identified by the U.S. or the EU as "anti-competitive," entailing significant costs in fines and penalties, have not infrequently occurred. As will be discussed below, some cases were observed in 2008 in which Japan extended the application of its competition law to foreign companies. The application of competition law without consideration of the location of the company (the principle of territoriality), i.e., extraterritorial application of competition law, is already practiced by the U.S. and the EU, and Japan is also moving in the direction of

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[6] The U.S. had been concerned about the lax standards in China with regard to criminal prosecution in cases of pirating, etc. The WTO panel report published in January 2009 concerning piracy complaints brought by the U.S. against China, did not accept the U.S. assertion that conditions of prosecution in China were in contravention of the agreement.

[7] The U.S., Australia, Canada, the EU, Japan, Mexico, Morocco, New Zealand, Singapore, South Korea, and Switzerland. In June 2009, the Office of the U.S. Trade Representative established a special page on its website to publish information as it becomes available. The sixth round of ACTA negotiations was held in South Korea in November 2009.

actively applying its anti-monopoly law to the actions of foreign companies which have an effect on the competitive environment in the nation.

■ The increasing importance of monitoring M&A between foreign companies

The attempted acquisition of the UK's Rio Tinto by Australia's BHP Billiton (terminated in November 2008) functioned to increase the attentiveness of competition authorities to the monitoring of M&A.

In response to requests from the Japan Iron and Steel Foundation and other organizations, the Japan Fair Trade Commission conducted an investigation of the purchase attempt from the perspective of a potential infringement of Japan's Act on the Prohibition of Private Monopolization and Maintenance of Fair Trade from July 2008. It was suspected that the acquisition would violate Article 10 of the Act, concerning restrictions on corporate stock holdings, and that it would limit competition in Japan's iron ore and raw coking coal markets. This represented the first time that Japan had investigated an M&A between foreign companies under the official investigation procedure in relation to domestic anti-monopoly law. The investigation was discontinued with the termination of the acquisition attempt, but the Japan Fair Trade Commission has indicated that in the future it will actively investigate cases in which large-scale M&A will have an impact on competition in the Japanese market, even if the M&A involves foreign companies.

In recent years, numerous cases like the BHP Billiton-Rio Tinto merger plan have arisen which could have a significant impact on world trade and the activities of Japanese companies, in particular in the field of resources. The rapid convergence of discussion on these issues is desirable.

The European Commission conducted a secondary (detailed) investigation in the case of the BHP Billiton-Rio Tinto merger, and presented a Statement of Objections to BHP Billiton. The European Commission's intention appears to have been not to prevent the merger, but to recommend corporate divestitures in the iron ore sector following the merger, on condition that remedy measures (measures adopted by the parties to an M&A in order to correct the effects of the M&A on the competitive environment) were put into place.

Since issuing the new EC Merger Regulation in 2004, the EU has clarified its standards in merger investigations, and there have been fewer cases in which mergers have been disallowed as a result of investigations. Under the previous EC Merger Regulation 1989, 18 mergers were disallowed between 1990 and 2003, but only two cases were recorded in the period from the promulgation of the regulation in 2004 to 2007, and there were no cases in 2008. However, in 2008 there were 24 cases in which mergers were approved on condition that remedy measures were put in place after either primary or secondary investigations, the highest figure since the new regulations were effected.

In addition to the EU procedures, it will be important for Japanese companies considering M&A to conform to the requirements of China's merger investigation process. China passed an Anti-Monopoly Law in August 2008, and has established an Anti-Monopoly Commission in the Ministry of Commerce to investigate corporate mergers. In the case of the BHP Billiton merger proposal, the Anti-Monopoly Commission only requested the company to submit information, but since then has become noticeably more active in conducting investigations. In April 2009, the Commission conditionally approved the acquisition of UK Lucite by Mitsubishi Rayon Corp. The conditions were severe: for a period of five years, the company would be prohibited from conducting M&As in China, and would be unable to build new production plants in the country for the same period. The details of the investigation process used to reach the decision are unclear. These new trends in China are having a significant impact on Japanese companies.

■ **Detection of international cartels advancing in the EU**

The European Commission's Directorate General for Competition has noticeably enhanced its detection of international cartels. The publication of new guidelines for the setting of fines in antitrust cases in 2006 increased the ability to predict the level of fines that would be applied, but the amount of the fines also increased considerably (the upper limit is 10% of total sales in the fiscal year on a consolidated basis) (Table II-13).

== Table II-13 ==

In November 2008, a fine of 1.38 billion Euros, the highest figure to date in the EU, was imposed on four companies involved in an automotive glass cartel. The largest fine yet imposed on a single company was 896 million Euros, applied to French company Saint Gobain in the same case.

In June 2008, the European Commission introduced settlement procedures for EU cartel cases. Under this system, if a company admits to the existence of the cartel and its own involvement in it, and reaches agreement with the European Commission regarding the amount of the fine, fixed procedures can be employed to enable the company to obtain a 10% reduction in the fine. In the U.S., the Antitrust Division of the Department of Justice uses a plea-bargaining procedure in negotiations with companies it seeks to prosecute, in which the amount of the fine is determined on the basis of an agreement with the company if a guilty plea is entered. At first glance, the EU settlement procedures seem similar to this system. However, the U.S. system involves monetary negotiations, while the EU system is limited to the granting of a 10% reduction in the penalty and a speedy resolution if a company approaches the European Commission during the course of a cartel investigation. The introduction of the settlement procedures by the European Commission, which has increased the number of cases it mounts against cartels since the introduction in 1996 of its Leniency Program (that Program became the present system in 2006), seems to have been a measure to simplify procedures in order to deal with cases more quickly.

As a reward to a company for approaching the competition authorities and admitting the existence of a cartel and its own involvement in it, the Leniency Program may, depending on the importance of the confession and the degree of cooperation offered by the company, waive or reduce fines and offer immunity from criminal prosecution, among other incentives. For example, in the case of the automotive glass cartel discussed above, a Japanese company made an application for leniency and received a 50% reduction in its fine.

The U.S. was the first to introduce a leniency program, in 1978, and made the transition to its present system in 1993. In Japan, the revision of the Act on Prohibition of Private Monopolization and Maintenance of Fair Trade in 2005 introduced a system for the reduction or waiving of penalties, and it has been used effectively in the discovery of domestic cartels. However, the Japanese law has limitations with regard to the regulation of foreign companies: the fines levied are calculated on the basis of sales in Japan. Because of this, by contrast with the EU and the U.S., which are able to apply significant fines and penalties calculated on the basis of a company's share in the world market even if it has not made sales in the EU or the U.S., the Japan Fair Trade Commission has no basis for calculating fines and applying penalties if a company has not made sales domestically.

■ **Status of international competition law initiatives**

Concerns exist that the presence of international cartels and the abuse of the market dominance of multinational corporations may have negative impacts on world trade. For this reason, it was initially intended that the Doha Round would incorporate trade and competition as an agenda for negotiations, in order among other measures to seek the harmonization of

competition policy in WTO member nations. However, trade and competition was ultimately not included as a negotiation agenda, due to factors including opposition from the developing nations, which were concerned about a potential increase in WTO obligations, and the passivity of the U.S. with regard to the issue.

However, antitrust agreements are being forged bilaterally and multilaterally, and systems of cooperation are being created between competition authorities in the areas of enforcement and the implementation of procedures. The 2007 marine hose case (involving hoses used for the transport of oil on the ocean) provides an example of effective cooperation by competition authorities against an international cartel. In this case, eight U.S. and EU companies formed a cartel in order to share the world market between themselves. During their investigations of the matter, Japanese, U.S., and EU competition authorities utilized a system of cooperation to contact each other in May 2007, and came together to conduct a joint investigation that led to the discovery of the cartel. In February 2008, the Japan Fair Trade Commission issued a cease and desist order requesting the cessation of activities in violation of Japan's antitrust law and the prevention of any reoccurrence against four EU companies in addition to two Japanese companies. This was the first time that the Japan Fair Trade Commission had applied administrative sanctions concerning cartels to foreign companies. However, only the Japanese companies were fined. This cartel divided the world market between its members, and the foreign companies had not made any sales in Japan. This case highlights the limitations of the Japan Fair Trade Commission's overseas enforcement rights, as compared to the systems in operation in the U.S. and the EU.

There are also many examples of provisions on competition regulations being incorporated in FTAs. The most advanced provisions are found in the systems of the EU and the European Free Trade Association (EFTA). The EU's competition law extends to the entire European Economic Area (EEA), which incorporates EFTA (excluding Switzerland).

Almost all of Japan's FTAs also incorporate provisions regarding competition. The main content of these provisions is the establishment of a basic cooperative relationship between competition authorities in terms of notification and consultation. Japan's antitrust agreements incorporate provisions for higher-level cooperation between competition authorities including positive comity enabling the competition authorities in the partner country to commence appropriate enforcement procedures, and coordinated enforcement enabling both countries to conduct simultaneous raids in order to prevent destruction of evidence, when there is a significant potential for anti-competitive activities in the partner country's territory to have a negative impact on the other country. The Japan-Switzerland FTA signed in February 2009 incorporates almost identical provisions for high-level cooperation as Japan's antitrust agreements, and thus achieves progress in the establishment of systems of cooperation between antitrust laws via FTAs (Table II-14).

== Table II-14 ==

Factors such as the appearance of huge corporate entities in the resources field through M&As and active responses by national competition authorities will have a significant effect on the international activities of Japanese companies. With trade and competition having been excluded from the Doha Round as a negotiation agenda, the International Competition Network (ICN), in which competition authorities exchange information, is one of the only venues for discussion of competition-limiting activities that have a profound effect on trade and the relationship between the measures affected by competition authorities and trade rules. It would be desirable for points of discussion in this area to be organized and discussions to be commenced at an early date bilaterally, plurilaterally, and multilaterally within organizations such as the OECD.

4. Post-crisis Changes in the Business Environment Should be Carefully Watched

(1) The strengthening of the WTO and the conclusion of FTAs will be effective against the trade restrictive measures being introduced throughout the world

The worsening global situation since the financial crisis in September 2008 has often been compared to the Great Depression of the 1930s. The trade-limiting measures put in place by the U.S. at that time drew protectionist reactions from Europe, intensifying the depression.

Since the financial crisis, a succession of measures have been introduced around the globe to protect national industries, including the introduction of the Buy American clause in the U.S. and a series of tariff hikes in emerging nations. This situation has raised concerns that trade conflict of the type that occurred in the Great Depression may be looming. However, the decisive difference between the trade environment of the past and that of today is the existence of WTO rules. Almost all of the trade-limiting measures introduced since the financial crisis appear to remain within the scope allowed by the various WTO agreements. If WTO rules are violated, requests from other members for rectifying the measures will be issued via the WTO judicial process, which has attained a high level of advancement. The WTO functions as a bulwark against the global trend towards protectionist measures.

However, in the recession, it is expected that demands for protectionist measures will continue. The loss of markets and the negative impact on supply chains generated by trade-restricting measures would hit Japan hard, which seeks footholds in overseas markets. In addition to exhorting member nations to respect WTO rules, Japan must actively participate in the enhancement of the system for surveillance of protectionist measures being pushed forward by the WTO.

In addition, the major nations must continue to send the message of free trade. The conclusion of the Doha Round would mean the liberalization of trade throughout the world, and would send a powerful message regarding adherence to the free trade system. The reduction of all bound tariff rates and the consequent narrowing of the margin for tariff increases by the WTO member nations would increase the foreseeability of trade.

The conclusion of FTAs, despite the fact that their merit is limited to the signatory countries, also sends a message regarding adherence to free trade. FTAs entail liberalization through the reduction of tariffs and other measures, and also have a powerful effect in controlling tariff increases and the introduction of non-tariff barriers. The importance of their role as supplements to the WTO is increasing.

(2) Post-2010: Towards the era of the FTA

From 2010, it is expected that tariffs will be eliminated in the major FTAs in effect in the Asia Pacific region, in which Japanese companies are conducting a wide range of business activities. In AFTA, the ASEAN6 will eliminate tariffs on almost all products for the ASEAN market. In addition, tariffs will be eliminated on the majority of goods in the ASEAN-China FTA and the ASEAN-South Korea FTA. The phased tariff reductions scheduled in Japan's FTAs with the ASEAN nations will also progress further, and the ASEAN-Australia-New Zealand FTA is expected to go into force and the ASEAN-India FTA to be signed within 2010. The era of the FTA is arriving, and it is clear that they will have an effect in further boosting intraregional trade in the world's major regions.

From the perspective of using FTAs, it will be essential to promote understanding of the nature and operation of individual FTAs to companies, and to make efforts towards steady improvement if a problem exists, including renegotiating points. The meaning of FTAs is not in their conclusion, but in their use by companies.

JETRO is working to maximize the benefits of FTAs, spreading information, offering consultation, and providing guidance concerning FTAs through its head office and its overseas offices, and participating in the Business Environment Promotion Council

established in cooperation with the Japanese government.

Japan's trade coverage by FTAs is currently only 15%. In future, it will be essential for Japan to accelerate its FTA negotiations and improve the conditions of competition for Japanese companies.

(3) Expanding areas of trade

The areas of discussion covered by global trade talks are expanding to include trade and the environment, investment and services, government procurement, intellectual property rights, and competition, etc. As international business diversifies, the type of trade liberalization and the rules demanded by companies are exceeding the previous WTO framework. Against this background, it is regrettable that the scope of the Doha Round negotiations has been rather limited.

"WTO-plus" liberalization and regulation shows progress through the medium of FTAs and plurilateral agreements in areas already covered by the WTO, including investment and services, government procurement, and intellectual property rights. At the same time, a trend towards increased cooperation in the area of competition, not covered by the WTO framework, can also be observed. In addition to achieving an early conclusion to the Doha Round, it will be necessary for the WTO to make preparations to engage immediately with these new agendas post-Doha.

In the area of trade and the environment, given the increasing importance to the international community of grappling with environmental problems such as climate change and the effects of hazardous chemicals, it will be necessary to ensure smooth trade in environment-related products, but at the same time the relationship between environmental agreements and international trade rules must be clarified. In addition, the EU has introduced a succession of environmental regulations, and these regulations have diffused around the world as de facto international standards. A situation is developing in which companies will be unable to conduct business successfully unless they internalize the cost of complying with environmental rules as an investment.

Via measures such as tariff hikes and the import licenses introduced anywhere in the world, the today's focus tend to be on conventional tariffs and non-tariff barriers; at the same time, however, the rules of international business in such areas as the environment, intellectual property, and competition, are steadily changing. It is possible that these changes in the business environment will increase in pace when the world emerges from the financial crisis. Close attention should be paid to this trend when engaging in business activities.

It is becoming increasingly important to drive discussion and rule-making in relation to these new trade agendas through FTAs and multilateral agreements in order to create the groundwork for future multilateral trade rules. Japan must be an active participant in this process.

Table II-1 Major Areas of Negotiation and Points of Discussion in the Doha Round
(Texts of NAMA Negotiations Chairperson Wasescha and Agriculture Negotiations Chairperson Falconer, Published December 2008)

Area of negotiation			Points of discussion
Non-agricultural market access (NAMA)	General tariff cuts: Swiss formula coefficient*1		○Coefficient of 8 for developed nations. No exempted goods. Reductions to be achieved in five-year instruments from January of the year following the entry into force of the DDA by means of equal annual reductions. ○Choice of coefficients of 20, 22, or 25 for developing nations. Selecting a coefficient of 20 would allow up to 14% of all products of the mining and manufacturing industries to be exempted. The rate of tariff reductions on exempted goods would be half or more of the rate for general goods. However, this is conditional upon these goods not exceeding 16% of the total value of the country's imports of mining and manufacturing products. Alternatively, the country may choose to exempt 6.5% of its total mining and manufacturing goods from tariff reductions, provided that these goods do not exceed 7.5% of the total value of the country's imports of mining and manufacturing goods. The choice of a coefficient of 22 would enable up to 10% of all products of the mining and manufacturing industries to be exempted. The rate of tariff reductions on exempted goods would be half or more of the rate for general goods. Alternatively, the country may choose to exempt 5% of its total mining and manufacturing goods from reductions. There would be no exemptions in the case of a coefficient of 25. The period for implementation of the reductions would be ten years from January 1 of the year following the entry into force of the Doha Round.
	Sectoral tariff elimination/harmonization (Sectoral)		○Elimination or large-scale reductions of tariffs in the following sectors are sought: ①Automotive and related parts; ②Industrial machinery;③ Chemicals; ④Fish and fish products; ⑤Forestry products; ⑥Gems and jewellery products; ⑦Toys; ⑧Electronic/Electrical products; ⑨Healthcare, pharmaceutical and medical devices; ⑩Bicycles and related parts; ⑪Hand tools; ⑫Sporting goods; ⑬Textiles, clothing and footwear; ⑭Raw materials ○Participation is non-mandatory.
Agriculture	Market access (tariff reductions)	General tariff cuts: Four-tier tariff reductions	○The developed nations will divide their current bound rates into four tiers. Tariffs in the highest tier (75% or more) will be subject to 70% cuts, and 54% cuts will be made across all tiers. The tariff cuts will be implemented in six equal reductions. ○The developing nations will divide their current bound rates into four tiers. Tariffs at the highest level (130% or more) will be subject to cuts of 2/3 of the equivalent tier for developed nations. Cuts of 36% will be made across all tiers. The tariff cuts will be implemented in 11 equal reductions.
		Sensitive products*2	○Developed nations can designate up to 4% of their agricultural products as sensitive products. However, if 30% or more of the products are in the highest tariff tier, up to 6% can be designated as sensitive products. *3 ○Developing nations can designate the above 4% or 6% plus one-third of their agricultural products as sensitive products.
		Special products (SP)	○In addition to sensitive products, developing nations can designate up to 12% of their total products as special products. An average tariff reduction of 11% must be applied to all sensitive products. Up to 5% of special products can be exempted from tariff reductions.
		Special Safeguard Mechanism (SSM)	○The SSM can only be used by developing nations. ○SSM can be applied as follows: If import volumes increase by 110-115% over average volumes for the most-recent three-year period, applied tariff rates can be increased by up to 25% or 25 percentage points, whichever is higher, above the current bound rates. If import volumes increase by 115-135% over average volumes for the most recent three-year period, applied tariff rates can be increased by 40% or 40 percentage points, whichever is higher, over the current bound rates. If import volumes increase by more than 135% over average volumes for the most-recent three-year period, applied tariff rates can be increased by 50% or 50 percentage points, whichever is higher, above current bound rates. However, the SSM cannot be applied if the level of the imports is negligible in relation to domestic production and consumption. ○The SSM can be applied if a developing nation's currency is acknowledged to have declined in value by 10% against international currencies in the previous one-year period, in the event of a decline in average monthly import prices (c.i.f.) in the most-recent three-year period to 85% or less of the price of MFN imports (85% is the trigger price). The upper limit for tariff increases is 85% of the difference between the actual import price and the trigger price.
	Domestic support (reduction of subsidies)	Overall trade-distorting support (OTDS) *4	○A reduction 80% for the EU, 75% for Japan, and 70% for the U.S. against the average value of OTDS for the period 1995-2000. Reductions of 55% for other developed nations.*5 Japan, the U.S. and the EU will implement reductions of 1/3, and other developed nations will implement reductions of 25%, when the Doha Round results go into force. Following this, the target level for reductions will be achieved by means of five equal reductions. ○The level of reductions for developing nations will be 2/3 the level for developed nations. Developing nations will implement a reduction of 20% when the Doha Round results go into force, following which the target level for reduction will be achieved by means of eight equal reductions.

(Notes) *1 A formula for the reduction of general tariffs. The lower the coefficient, the lower the final tariff level becomes. Members are obliged to reduce tariffs on all general goods to the level of the coefficient or below.
*2 Products which are treated as exempt from tariff reductions on general goods. Goods designated as special products are subject to tariff quotas.
*3 Japan and Canada have expressed opposition to this proposal. Japan seeks a figure of 8%.
*4 The total of "amber box" subsidies (subsidies which have a trade distorting effect), "blue box" subsidies (subsidies which have less of a trade distorting effect than "amber box" subsidies), and *de minimis* subsidies (minimal "amber box" subsidies).
*5 In monetary terms, this represents upper limits of approximately USD 34.6 billion in the case of the EU and of approximately USD 14.46 billion in the case of the U.S.
(Source) WTO Secretariat documents, WTO Reporter (BNA), World Trade Online (Inside Washington Publishers), and other materials.

Table II-2 Main trade-limiting measures taken by countries in the wake of the financial crisis

Measure	Main corresponding WTO agreement	Country/Region	Description	Date of Introduction	Basis
General tariff hike	GATT (General Agreement on Trade and Tariffs)	Russia	○The government of Russia has periodically increased tariff rates. Tariff hikes have been applied to automobiles, automobile bodies, meat, combines, steel products and televisions in the past. ○The tariff hike lasts for a period of 9 months or one year. ○The tariff on passenger cars (gasoline engine) less than 3 years old was raised from 25% or not less than 1.2-2.35 euros per cubic centimeter of cylinder volume (with some exceptions), to 30% or not less than 1.2-2.8 euros per cubic centimeter of cylinder volume. The tariff on flat-screen televisions rose from 10% to 15%.	November 14, 2008 January 1, 2009 January 12, 2009 February 14, 2009 April 4, 2009 May 7, 2009	Russian Federal Government Act of October 10, 2008 No. 745; Russian Federal Government Act of December 5, 2008 No. 903; Russian Federal Government Act of December 8, 2008 No. 918; Russian Federal Government Act of January 9, 2009 No. 9; Russian Federal Government Act of January 9, 2009 No. 12; Russian Federal Government Act of February 26, 2009 No 174; Russian Federal Government Act of March 31, 2008 No. 273.
		India	○Raised basic tariff rate on some steel products from 0% to 5% and raised basic tariff rate on soybean oil from 0% to 20%.	2008/11/18	Ministry of Finance, Notification No. 122, November 18, 2008
		Turkey	○Raised import taxes on some steel products, including hot flat-rolled steel (from 5% to 13%) and cold flat-rolled steel (from 6% to 14%).	2009/1/1	Official Gazette No. 27097, December 31, 2008
		Vietnam	○Periodic hikes in customs duties on newsprint paper, writing utensils, dairy products, meat, semifinished steel products, flat-rolled products, bar steel and iron wire, refined copper and copper alloy, alloy steel bar and others.	February 16, 2009 March 9, 2009 March 20, 2009 April 1, 2009 April 8, 2009 April 15, 2009	Ministry of Finance Circular No. 25/2009/QD-BTC, February 10, 2009; Ministry of Finance Circular No. 39/2009/TT-BTC, March 3, 2009; Ministry of Finance Circular No. 52/2009/TT-BTC, March 17, 2009; Ministry of Finance Circular No. 58/2009/TT-BTC, March 25, 2009; Ministry of Finance Circular No. 67/2009/TT-BTC, April 3, 2009; Ministry of Finance Circular No. 75/2009/TT-BTC, April 13, 2009
		Ukraine	○The Ukrainian government imposed a temporary surcharge, beginning on March 7, 2009, of up to 13% on items designated non-critical. ○On May 18, 2009 the Ukrainian government notified the WTO that it was withdrawing the temporary surcharge, with the exception of refrigerators (HS8418) and passenger cars (HS87031).	2009/3/7	Ukraine Law No. 924-VI, February 4, 2009
		Ecuador	○Introduced an import-quota system and raised import taxes for a one-year period, citing a deteriorating balance of payments. ○Applied to imports from the Andean Community (CAN). ○Covered a wide array of products, including agricultural products; foodstuffs; soap; leather, paper and pulp; textiles and apparels; ceramic wares; glass; iron, copper and aluminum products; base-metal products; machinery, electronic appliances; sunglasses and other eyeglass products; cameras; movie projectors; watches; percussion instruments; furniture and others.	Successive enforcement from January 23, 2009	Foreign Trade and Investment Council of Ecuador Resolution No. 458, November 26, 2008; Foreign Trade and Investment Council of Ecuador Resolution No. 466, January 1, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 468, January 30, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 469, February 12, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 470, February 19, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 477, March 6, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 478, March 6, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 480, March 18, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 481, April 1, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 482, April 7, 2009; Foreign Trade and Investment Council of Ecuador Resolution No. 484, April 30, 2009.
		EU	○Reintroduced customs duties on cereals that had been temporarily removed. ○Duties were set at 12 euros/ton for common wheat, 16 euros/ton for barley, 7 euros/ton for mullet and 8 euros/ton for barley used in malt.	2008/10/26	European Commission Regulation No. 1039/2008 of October 22, 2008 (published in the Official Journal of the European Union, Issue L280, October 23, 2008).
		Brazil	○Increased tariffs from tariff-free to a maximum of 14% on seven steel items, including hot-rolled steel sheets and cold-rolled coils.	2009/6/5	Chamber of Foreign Trade Decision No. 28, June 5, 2009
Standards and Certification	Agreement on Technical Barriers to Trade (TBT)	Malaysia	○Introduction of compulsory standards for 57 steel items including bar steel and stainless steel.	2008/11/15	2008 Customs (Prohibition of Imports) Order Rev. 5; 2008 Customs (Prohibition of Imports) Order Rev. 5 guideline (WTO) Permanent Delegation of Malaysia to the WTO
		India	○Mandated compliance (compulsory standard) with Bureau of Indian Standards (BIS) for six steel products including iron wire and bar steel from September 12, 2008. ○Compulsory standards were scheduled to be introduced for 11 items, including galvanized steel sheet, tinplate and certain steel sheet on February 12, 2009, but it was announced on February 10, 2009 that implementation would postponed for one year and that three items would be exempted.	6 items: Sept 12, 2008 8 items: February 12 enforcement postponed for one	Gazette of India, September 9, 2008; Gazette of India, February 10, 2009
		India	○Imports of toy products made in China were banned for a six-month period (HS No. 9501, 9502, 9503). ○This was relaxed on March 2, 2009, to allowing imports of toys made in China on the condition that, among other things, they meet the standards of the American Society for Testing and Materials (ASTM) and International Organization for Standardization (ISO).	Jan 23, 2009 enforcement; March 2, 2009 revision	Ministry of Commerce and Industry Notification No. 82, January 23, 2009; Ministry of Commerce and Industry Notification No. 91, March 2, 2009.
		Indonesia	○Mandated compliance (compulsory standard) with the Indonesian National Standard (SNI) for hot-rolled sheet steel, zinc and aluminum alloy-plated sheet steel.	May 6, 2009 July 6, 2009 September 27, 2009 scheduled enforcement	Minister of Industry Decree No. 01/M-IND/PER/1/2009, January 6, 2009; Minister of Industry Decree No. 02/M-IND/PER/ 1/2009, January 6, 2009; Minister of Industry Decree No. 32/M-IND/PER/3/2009, March 16, 2009; Minister of Industry Decree No. 36/M-IND/PER/3/2009, March 27, 2009; Minister of Industry Decree No. 37/M-IND/PER/3/2009, March 27, 2009; Minister of Industry Decree No. 38/M-IND/PER/3/2009, March 27, 2009; Minister of Industry Decree No. 39/M-IND/PER/3/2009, March 27, 2009.
		Ecuador	○Mandated compliance (compulsory standard) for cement, diesel oil, matches, tires, clothing, glass, steel products, aluminum, refrigerators, electronic appliances, tractors, automobiles and automobile parts and requires the submission of certification at the time of importation. ○From March 15, 2009, an interim measure allows companies with ISO9001 certification to make a self-declaration of conformity.	2009/2/2	Ministry of Industries and Competitiveness National Quality Council Directive No. 001-2008, No. 002-2008, December 1, 2008; Ministry of Industries and Competitiveness National Quality Council Directive No. 003-2008, December 18, 2008; Ministry of Industries and Competitiveness National Quality Council Directive No. 007-2008, February 2, 2009.
		Thailand	○Toughened procedures for acquiring and renewing product specifications by the Thai Industrial Standards Institute (TISI).	2009/5/1	Thai Industrial Standards Institute Proclamation TISI-R-PC-01, March 4, 2009.
		South Korea	○Designated lithium rechargeable batteries as "industrial products subject to voluntary safety confirmation" under the "Quality Management and Safety Control of Industrial Products Act." Products must be certified as meeting safety standards by a testing organization before shipment or customs clearance.	2009/7/1	Korean Agency for Technology and Standards Notification No 2008-1019
Measure	**Main corresponding WTO agreement**	**Country/Region**	**Description**	**Date of Introduction**	**Basis**
Import Licensing System	Agreement on Import Licensing Procedures	India	○Transferred the imports of steel products and automobile parts (gearboxes, bumpers, etc) from the "free" to "restricted" category. Accordingly, the import of these products will require obtaining a license from the government.	Effective from November 21 and November 24, 2008.	Ministry of Commerce and Industry Notification No. 63 (RE-2008)/2004-2009; Ministry of Commerce and Industry Notification No. 64 (RE-2008)/2004-2009.
		Indonesia	○Introduced the registration system for importers of steel products, which requires: (1) importer registration, (2) regular reports on import performance, and (3) pre-loading inspections at ports, for 202 steel products including flat-rolled and shaped steel. The period of enforcement is from February 18, 2009 to December 31, 2010. ○Introduced the registration system for importers that requires importers of electric items, ready-made goods, children's toys, foodstuffs, beverages and other items to register and submit periodic reports on their import figures. Effective from December 15, 2008 to December 31, 2010. Further, imports are restricted to five ports and all international airports.	Effective from February 18, 2008 (Registration system for importers of steel products). Effective from December 15, 2008 (Registration system for importers).	Regulation of the Minister of Trade No. 08; Regulation of the Director General of Metal, Machinery, Textile and Miscellaneous Industries No. 04 (Registration System for Importers of Steel Products); Regulation of the Minister of Trade No. 44 and No. 56; Regulation of the Director General of Foreign Trade, Ministry of Trade No. 14 (Importer Registration System); and Ministry of Industry and Trade Notice No. 63 and Notice No. 64.
		Argentina	○Introduced non-automatic import licensing system covering products like joints for steel pipes, elevators, forging machines and other machinery, fabrics and textiles, automobile tires and knives, combines, disks, tractors, furniture and fasteners (MEP Administrative Decision 61/2009 issued on March 4, 2009).	Effective from November 30, 2009 (588・589/2008). Effective from January 21, 2009 (26/2009). Effective from March 26, 2009 (61/2009).	Ministry of Economy and Production Administrative Resolution 588/2008 and 589/2008; Ministry of Economy and Production Administrative Resolution 26/2009 and 61/2009
Government procurement	Agreement on Government Procurement	US	○Included the "Buy American" Clause (Title 16 General Provisions) in the "American Recovery and Reinvestment Act of 2009," which requires use of American-made products in government procurement. But also includes the language that stipulates that it "be applied in a manner consistent with the United States' obligations under international law." The Buy American requirement can be waived when: (1) use of American products would be inconsistent with the public interest, (2) sufficient and reasonable quantity, and of a satisfactory quality is produced domestically, and (3) use of domestic product would increase the cost of the overall project by more than 25%.	Signed February 17, 2009	American Recovery and Reinvestment Act Title XVI, General Provisions, "Buy American"
		Indonesia	○Enacted preferential treatment for domestic goods and services by government agencies in procurement on May 12, 2009; scheduled entry into force is in August, three months later. Provides preferential pricing in bid tendering for products and services whose local content is above a certain threshold. ○Also provides preferential treatment for domestic firms when construction work on government public-works projects is contracted out.	Enacted May 12, 2009	Regulation of the Minister of Industry No. 49/M-IND/PER/5/2009 on use of Domestic Products in Procurement of Government Goods and Services.
		Australia	○Strengthened, on the basis of the results of a 2008 evaluation, the state of Victoria's "Victoria Industry Participation Policy" (VIPP) (originally took effect in April 2001) which gives preferential treatment to local SMEs in government procurement. The policy applies to projects of over AU$3 million in the city of Melbourne and over AU$1 million elsewhere. ○Projects of over AU$250 million are designated as "strategic projects" mandating extra preferential treatment to local SMEs than the normal local-content requirements.	Applies to bids after July 1, 2009.	State of Victoria Department of Innovation, Industry and Regional Development website
		Australia	○The state of New South Wales announced, in June 2009, a revision of its guidelines covering state-government procurement to provide preferential treatment to Australian and New Zealand companies. This includes: participation in tenders of over AU$4 million requires the submission of an "industry participation plan" (IPP), and evaluation of a bid requires at least a 6% weighted score be given to the IPP, among other things.	Announced June 2009.	New South Wales Government Procurement: Local Jobs First plan, June 6, 2009.
Consumer Subsidies	GATT (General Agreement on Trade and Tariffs)	Malaysia	○The government pays 5,000 ringgit to the owner of a car that is at least ten years old to trade it in for a Proton or a Perodua.	Announced March 10, 2009.	Supplementary Budget Plan, March 10, 2009

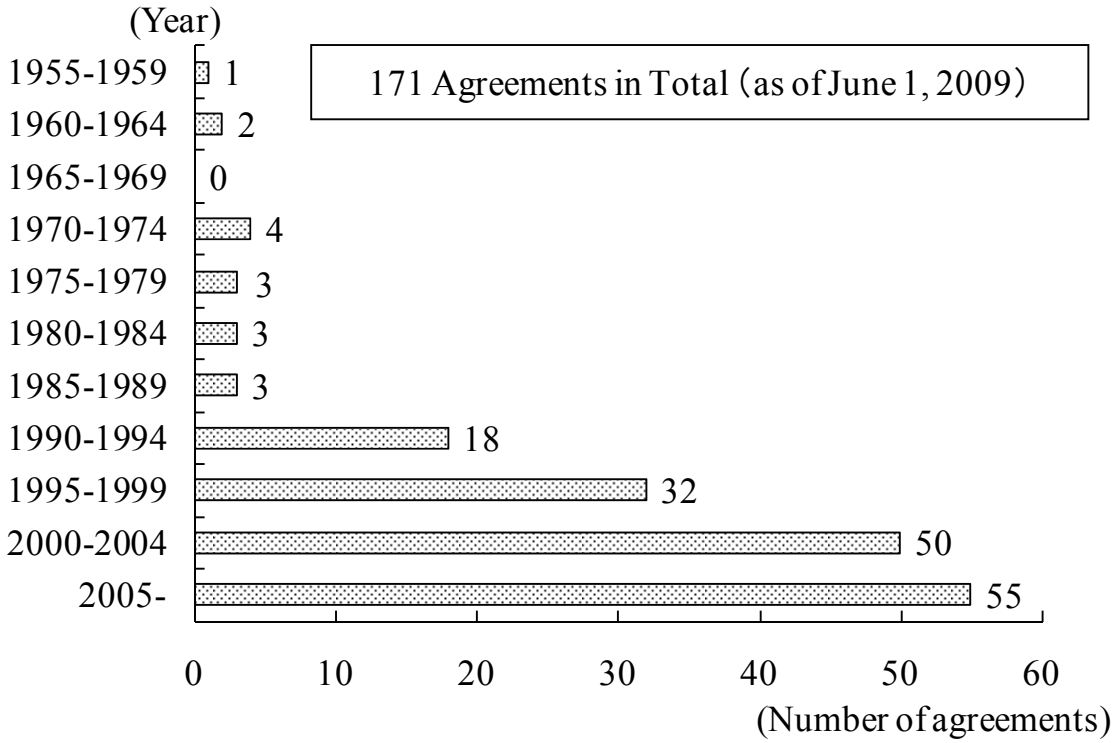
(Sources) Prepared based on materials from the governments of several countries, the WTO, World Bank and "2009 Report on Unfair Trade" (METI).

Table II-3 Post-Financial Crisis Industrial Assistance by Country/Region

Measure	Major relevant WTO agreements	Country/Region	Description	Period of Introduction	Basis
Financial Assistance to industry	Agreement on Subsidies and Countervailing Measures	US	○Announced on December 19, 2008 that GM and Chrysler would receive up to $17.4 billion ($13.4 billion for GM and $4 billion for Chrysler) in financial support as part of the Emergency Economic Stabilization Act enacted on October 3, 2008. Of that, GM and Chrysler received $4 billion each on December 31 and January 2, 2009 respectively. In April 2009, an extra $2 billion was provided to GM. ○In March 2009, the Treasury Department announced that it would provide up to $5 billion to auto-parts suppliers as part of the Emergency Economic Stabilization Act passed in October 2008. The government would provide guarantee to banks that purchased suppliers' accounts receivables.	Enacted October 3, 2008. Announcement of assistance to automobile manufacturers: December 19, 2008. Announced March 19, 2009.	H.R.1424 Emergency Economic Stabilization Act of 2008 Department of Treasury Press Release TG-64, March 19, 2008.
		Canada	○On December 20, the prime minister of Canada announced that emergency support of up to $4 billion (Canadian) would be provided to Chrysler. The federal government and the provincial government of Ontario would extend loans of C$3 billion to GM Canada, and C$1 billion to Chrysler Canada. ○The Canadian government announced on April 7, 2009 that it would increase the capitalization of the Export Development Canada (EDC) by C$700 million to finance an Accounts Receivable Insurance Program for automobile parts suppliers.	Announced Dec 20, 2008 Announced April 7, 2009	Government of Canada press release, December 20, 2008. Government of Canada press release, April 9, 2009.
		Europe	○President Sarkozy of France announced the extension of a 6 billion euro loan to aid Peugeot-Citroen and Renault in February 2009, on the condition that the manufacturers keep their factories within the country. After a protest from the Czech Republic, France promised that the substance would changed in order to avoid any discriminatory effects on other member states. ○The UK, Spain, Italy, Germany and Sweden have also announced aid packages to companies, mainly in the automobile sector.	Applied from December 17, 2008.	European Commission Communication "Temporary Community Framework for State Aid Measures to Support Access to Finance in the Current Financial and Economic Crisis" (Official Journal of the EU C16, January 22, 2009).
		Europe	○On March 12, 2009, the European Investment Bank announced that its Board of Directors had approved the extension of 3 billion euros in financing to the European automobile manufacturing sector. The majority of the money was earmarked to fund the economic package that had been approved at the EU Summit in March, 2008, which included programs for the development of clean technologies to help drive up energy efficiency and reduce carbon dioxide emissions. ○Announced its further loans of 866 million euros on April 7 and 750 million euros on May 12, for an anticipated total of more than 7 billion euros in loans to the automobile industry, including parts suppliers, in 2009.	Approved by Board of Directors on March 12, 2009.	European Investment Bank press release, March 12, 2009. European Investment Bank press release, April 7, 2009. European Investment Bank press release, May 12, 2009.

(Source) Prepared based on material from various governments.

Figure II-1 Number of FTAs Worldwide by Year



(Note) The year is based on the date of the agreement becoming effective. The South Korea-ASEAN and India-Thailand FTAs are added, before notification.
(Source) Compiled from list on WTO website
(http://www.wto.org/english/tratop_e/region_e/region_e.htm)

Table II-4 Japan's FTAs: In effect, signed, being negotiated, and their share of Japanese trade (2008)

(%)

	FTA	Share of Japanese Trade (2008)			Share of tariff-free items (trade amount basis)	
		Export	Import	Two-way	Trading partner country/region	Japan
In effect	Singapore	3.4	1.0	2.2	100	94.7
	Mexico	1.3	0.5	0.9	98.4	86.8
	Malaysia	2.1	3.0	2.6	99.3	94.1
	Chile	0.4	1.0	0.7	99.8	90.5
	Thailand	3.8	2.7	3.3	97.4	91.6
	Indonesia	1.6	4.3	2.9	89.7	93.2
	Brunei	0.02	0.6	0.3	99.9	99.99
	Philippines	1.3	1.2	1.2	96.6	91.6
	ASEAN	10.3	8.6	9.5	approximately 91	93.2
	Subtotal	14.8	15.6	15.2	-	-
Signed	Vietnam	1.0	1.2	1.1	87.7	94.9
	Switzerland	0.6	0.8	0.7	99.7	99.3
Being negotiated	GCC (Gulf Cooperation Council)	3.5	19.2	11.2	-	-
	India	1.0	0.7	0.8	-	-
	Australia	2.2	6.2	4.2	-	-
	Peru	0.1	0.3	0.2	-	-
	South Korea	7.6	3.9	5.8	-	-
Total		29.9	46.6	38.2	-	-

(Notes) (1) The figure for ASEAN's share of trade with Japan only includes trade with the ASEAN members that have an FTA in effect (Singapore, Laos, Vietnam, Myanmar, Brunei, Malaysia and Thailand).

(2) The share of tariff-free items refers to the share of total value of trade categories for which tariffs have been immediately eliminated and items for which tariffs will be eliminated in stages within 10 years to the total value of trade. The share of tariff-free items represents the share of 2005 for trade with Singapore, the share of 2002 for trade with Mexico, the share of 2004 for Japan and the share of 2003 for Malaysia; for trade with Malaysia, the share of 2005 for trade with Chile, the share of 2004 for Japan and the share of 2003 for Thailand; for trade with Thailand, the share of 2003 for trade with the Philippines, the share of 2005 for trade with Brunei, the share from May 2004 to April 2005 for trade with Indonesia; for trade with ASEAN, the share of 2006 for Japan, the share of 2005 or 2006 for ASEAN, the share of 2006 for Vietnam and the share of 2006 for Switzerland.

(Sources) Trade Statistics of Japan, Ministry of Foreign Affairs, "2009 Report on Compliance by Major Trading Partners with Trade Agreements - WTO, FTA/EPA, and BIT" (METI).

Table II-5 Status of Use of Major effective FTAs in the Asia Pacific and Southwest Asia Regions by Third Countries

(Units: Number, %)

FTA	Number	% share
AFTA	86	56.2
ASEAN-China	18	11.8
Thailand-India	9	5.9
Thailand-Australia	9	5.9
ASEAN-Korea	7	4.6
Australia-New Zealand	5	3.3
Thailand-New Zealand	5	3.3
Australia-Singapore	4	2.6
South Asian Free Trade Area (SAFTA)	3	2.0
Singapore-India	2	1.3
India-Sri Lanka	2	1.3
Singapore-New Zealand	2	1.3
Malaysia-Pakistan	1	0.7
Total number of times FTAs have been used	153	100.0

(Notes) ① The survey was conducted between September 25 and October 31, 2008. The survey subjects were Japanese companies operating enterprises with a ratio of capital contribution of 10% or more in any of 13 nations (ASEAN7 [Thailand, Malaysia, Indonesia, the Philippines, Singapore, Vietnam, Myanmar], India, Pakistan, Sri Lanka, Bangladesh, Australia, and New Zealand). The number of valid responses was 1,852, and the valid response rate was 36.8%.

② The number of FTA utilization was determined by responses to a question as to whether the companies had used an FTA in conducting exports from one signatory nation to another signatory nation.

(Source) Survey of Japanese-Affiliated Firms in Asia and Oceania(FY2008) (JETRO)

Table II-6 Utilization of FTAs in Thailand and Malaysia (Exports)

(US$ million, %)

	Trading Partner Country/Region	Total value of exports utilizing FTA				Share to the total exports			
		2005	2006	2007	2008	2005	2006	2007	2008
Thailand	AFTA	5,146	5,509	7,865	10,735	21.5	20.2	22.6	26.8
	AFTA(excluding Singapore)	4,942	5,299	7,609	10,343	30.0	28.2	30.9	34.4
	ASEAN-China	614	1,450	1,769	1,691	6.7	12.3	11.1	10.4
	Thailand-India	267	328	399	418	17.6	18.1	14.0	12.3
	(82 items of the Early Harvest Scheme)	267	328	399	418	79.0	89.1	98.3	83.4
	Thailand-Australia	2,122	2,746	4,067	4,944	67.3	62.6	66.3	61.9
Malaysia	AFTA	2,921	3,071	3,924	4,815	7.9	7.3	8.7	9.3
	AFTA(excluding Singapore)	2,731	2,898	3,736	4,561	18.5	16.9	19.1	20.6
	ASEAN-China	274	1,043	1,629	1,889	2.9	8.9	10.5	9.9
Total	AFTA	8,066	8,580	11,789	15,550	13.3	12.4	14.7	17.0
	AFTA(excluding Singapore)	7,673	8,197	11,345	14,904	24.6	22.8	25.7	28.6
	ASEAN-China	888	2,493	3,398	3,579	4.8	10.6	10.8	10.1

(Notes) (1) The share to the total exports is: the value of exports utilizing FTA divided by the total value of exports. Total value of exports includes items for which tariffs have been eliminated on a MFN basis by the trading partner.
(2) Malaysia's trade figures with South Korea are based on June to December 2007 results.
(Sources) Prepared based on Thailand Ministry of Commerce, Malaysia Ministry of International Trade and Industry, and trade statistics of various countries.

Table II-7 Utilization of AFTA in Thailand and Malaysia (Exports)

(US$ million, %)

	Trading Partner Country/Region	Total value of exports using AFTA					Share to the total exports				
		1998	2003	2006	2007	2008	1998	2003	2006	2007	2008
Total for Thailand and Malaysia	Indonesia	99	913	2,231	3,530	5,128	5.0	20.6	30.1	34.4	40.8
	Vietnam	7	632	1,763	2,772	3,329	0.8	30.3	36.3	43.2	44.6
	Malaysia	212	801	1,363	1,850	2,465	11.9	20.7	20.5	22.1	24.9
	Philippines	179	748	1,529	1,928	2,411	9.3	24.9	32.0	34.1	37.4
	Thailand	91	594	1,270	1,206	1,414	3.9	13.0	14.9	13.8	14.8
	Singapore	17	247	382	445	646	0.1	1.1	1.2	1.2	1.6
	Myanmar	0	2	4	13	74	0.0	0.4	0.4	1.0	4.5
	Laos	0	4	23	30	46	0.0	0.9	2.3	2.1	2.6
	Brunei	0	2	14	15	23	0.1	0.7	3.3	3.0	4.0
	Cambodia	0	0	1	1	14	0.0	0.0	0.1	0.1	0.6
	Total	606	3,942	8,580	11,789	15,550	2.2	9.3	12.4	14.7	17.0
	Total (excluding Singapore)	589	3,696	8,198	11,345	14,904	5.6	18.4	22.8	25.7	28.6
Thailand	**Total**	391	2,561	5,509	7,865	10,735	4.0	15.5	20.2	22.6	26.8
	Total (excluding Singapore)	383	2,454	5,299	7,609	10,343	7.4	23.0	28.2	30.9	34.4
Malaysia	**Total**	214	1,382	3,071	3,924	4,815	1.2	5.3	7.3	8.7	9.3
	Total (excluding Singapore)	206	1,242	2,898	3,736	4,561	3.8	13.2	16.9	19.1	20.6

(Notes) (1) The value for exports utilizing AFTA employs values under the Common Effective Preferential Tariff (CEPT), the AFTA tariff-lowering scheme.
(2) The share to the total exports is the value of exports utilizing AFTA/total value of exports. Total value of exports includes items for which tariffs have been eliminated on a MFN basis by the trading partner.
(Sources) Prepared based on Malaysia Ministry of International Trade and Industry, Thailand Ministry of Commerce and trade statistics for various countries.

Table II-8 region-wide FTA concepts Involving the Asia-Pacific Region and their Position in the World Economy (2008)

	Share to world population	Share to world GDP	Share to world trade
World	6,653.43 million	60.6898 US$ trillion	15.8908 US$ trillion
ASEAN+3	31.4%	19.4%	22.7%
ASEAN+6	49.6%	23.3%	25.2%
FTAAP (APEC)	40.6%	53.3%	43.7%
TPP	5.7%	26.0%	12.3%

(Notes) (1) Member nations making up region-wide FTA concepts are as follows:
ASEAN+3: ASEAN10, Japan, China, South Korea.
ASEAN+6: ASEAN10, Japan, China, South Korea, Australia, New Zealand, India.
APEC(FTAAP): Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, the Philippines, Russia, Singapore, Taiwan, Thailand, US and Vietnam.
TPP: US, Singapore, Brunei, New Zealand, Chile, Australia, Peru.
(2) World population is the total of 180 countries.
(3) World GDP is nominal GDP (dollar basis, converted at market exchange rate).
(Sources) Prepared based on WEO(IMF) and trade statistics for various countries.

Table II-9 Intra-regional trade within major regions of the world (two-way trade)

Table II-9 Intra-regional trade within major regions of the world (two-way trade)

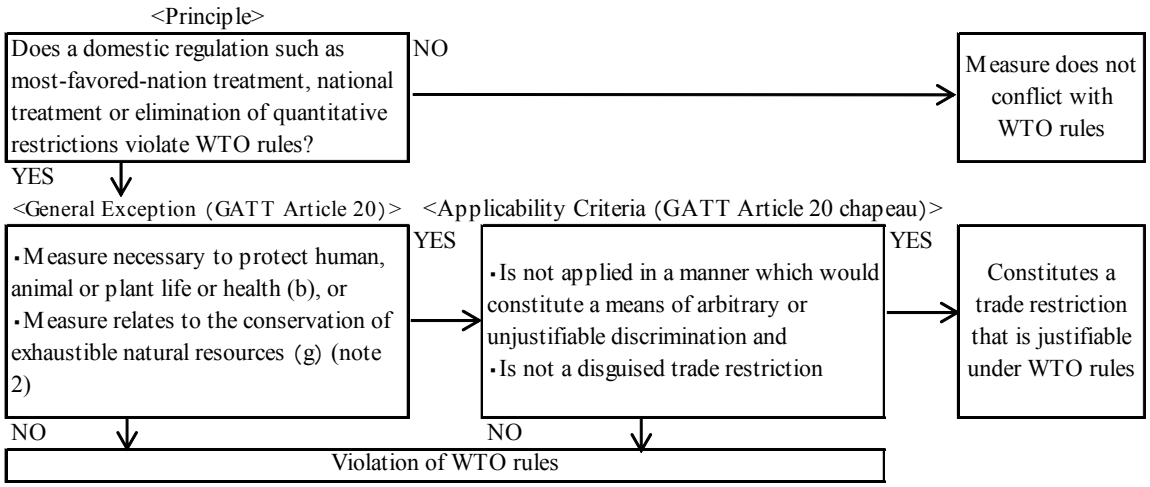
(%)

		1980	1990	1995	2000	2005	2006	2007	2008
Asia	ASEAN+6（adjusted for re-exports）	-	-	-	41.9	44.1	43.2	43.1	44.2
	ASEAN+6	33.2	33.0	40.3	40.6	43.1	42.4	42.3	43.5
	ASEAN+3	28.9	28.6	36.9	37.4	39.1	38.2	37.8	38.5
	ASEAN	15.9	17.0	21.0	22.7	24.9	24.9	25.0	26.7
	ASEAN+China	14.9	15.8	19.1	20.1	20.7	20.7	20.6	21.7
	ASEAN+India	15.1	16.5	20.7	22.3	23.9	23.9	23.9	25.4
	ASEAN+Japan	23.4	21.7	27.4	26.4	26.0	25.4	25.6	27.2
	ASEAN+6+Taiwan	35.1	36.2	43.7	44.9	47.7	46.9	46.6	47.3
	ASEAN+3+Taiwan	30.9	32.0	40.4	41.9	44.1	43.1	42.5	42.5
	ASEAN+Taiwan	15.8	17.3	21.7	23.8	25.0	25.1	25.2	26.6
Americas	NAFTA	33.2	37.2	42.0	46.8	43.0	42.0	41.1	39.9
Europe	EU27	57.3	65.4	65.1	64.6	64.2	64.6	65.1	63.9
APEC (adjusted for re-exports)		-	-	-	71.4	68.2	67.1	65.8	64.1
APEC		57.5	67.5	71.6	72.3	69.3	68.3	67.0	65.2
TPP		7.6	8.5	8.9	7.2	6.9	7.1	7.0	7.1

(Notes) (1) ASEAN+6 is composed of the ASEAN countries plus Japan, China, South Korea, Australia, New Zealand and India.
(2) ASEAN+3 is comprised of the ASEAN countries plus Japan, China and South Korea.
(3) APEC is comprised of Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, the Philippines, Russia, Singapore, Taiwan, Thailand, the US and Vietnam.
(4) TPP is comprised of the US, Singapore, Brunei, New Zealand, Chile, Australia and Peru.
(5) The share of intra-regional trade was calculated by (Value of intra-regional exports + Value of intra-regional imports) / (Value of exports to the world + Value of imports from the world) x 100.
(6) In terms of ASEAN+6 (adjusted for re-exports), adjustments to the estimations of intra-regional exports were made by excluding re-exports as duplicate postings, using the estimation method below.

<Adjustments to Singapore, one of the ASEAN+6 countries>
(a) For the value of Singapore's exports, the value of exports of Singapore origin to the world was used.
(b) For the value of Singapore's exports to ASEAN+6, the value of exports of Singapore origin to ASEAN+6 was used.
(c) Imports of Singapore from the World = Total value of imports from the world - Value of re-imports from the World.
(d) Imports of Singapore from ASEAN+6 (estimate) = Value of imports from ASEAN+6 x ((Value of imports from the World - Value of re-exports from the World) / Value of imports from the World).
<Adjustments to Hong Kong, one of the non-ASEAN +6 countries>
In addition to the amount of intra-regional exports of the ASEAN+6, calculated using the above procedures, the following adjustments were made:
(a) Value of re-exports from ASEAN+6 to ASEAN+6 via Hong Kong is added.
(b) Of the above re-exports, those that have been re-exported from China to China via Hong Kong have been excluded (since they are considered to be domestic Chinese trade.)
(7) As a member of APEC, Hong Kong's figures were adjusted according to the same method used for ASEAN+6 member state Singapore.
(Sources) Prepared based on DOT(IMF) and trade statistics of Taiwan, Hong Kong and Singapore.

Figure II-2 Environmental-Protection Standards under GATT and dispute settlement mechanism of WTO



(Note) (1) Besides GATT Article 20, WTO documents relating to environmental protection include: the preamble in the Agreement Establishing the WTO, the General Agreement on Trade in Services (GATS) Article 14 (b), The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) Article 2 and others, Agreement on Technical Barriers to Trade (TBT) Article 2 and others, etc.
(2) Only if such measures are made effective in conjunction with restrictions on domestic production or consumption.

(Source) Prepared based on WTO Agreement.

Table II-10 Main proposals on tariff-elimination formulas for environmental goods

Proposing Country/Region (Date of Proposal)	Description
Japan, US, EU, Canada, South Korea, New Zealand, Norway, Taiwan, Switzerland (April 2007)	List encompassing 153 items (HS code 6-digits) and 12 categories: (1) Air pollution control (2) Management of Solid and Hazardous Water and Recycling System (3) Cleanup or remediation of soil and water (4) Renewable-energy plants (5) Heat and energy management (6) Waste water management and potable water treatment (7) Environmentally preferable products, based on end use or disposal characteristics (8) Cleaner or more resource efficient technologies and products (9) Natural risk management (10) Natural (marine) resources protection (11) Noise and vibration abatement (12) Environmental monitoring, analysis and assessment equipment
US, EU (November 2007)	Two-step process for negotiating elimination of tariffs on 153 items starting with (1) 43 goods directly linked to environmental protection, according to a World Bank report, on which tariffs should be eliminated by all 153 WTO member states, and (2) limited to developed and emerging member states and excluding least-developed countries. The proposal was a response to developing countries' criticism of an across-the-board elimination.
India, Argentina (June 2007)	Project-based formula that eliminates tariff and service barriers only for trade related to activities that are certified as projects that contribute to the environment. Each country would submit a list of private-sector companies and public entities engaged in activities benefitting the environment, and certification of projects on each country's list would be decided through multilateral negotiations.
Brazil (November 2007)	"Request & offer" formula adopted during the Doha Round negotiations on services. Each country would submit a list (request) of environmental goods whose tariffs it wished to have eliminated, and each country receiving the list would answer (offer) items on which it could take action. An item liberalized as a result of a country's offer would be accorded MFN status by all WTO members. Brazil's proposal would not limit environmental goods to industrial goods, but would include agricultural products such as bioethanol in the negotiations as well.

(Source) Prepared based on WTO Secretariat materials.

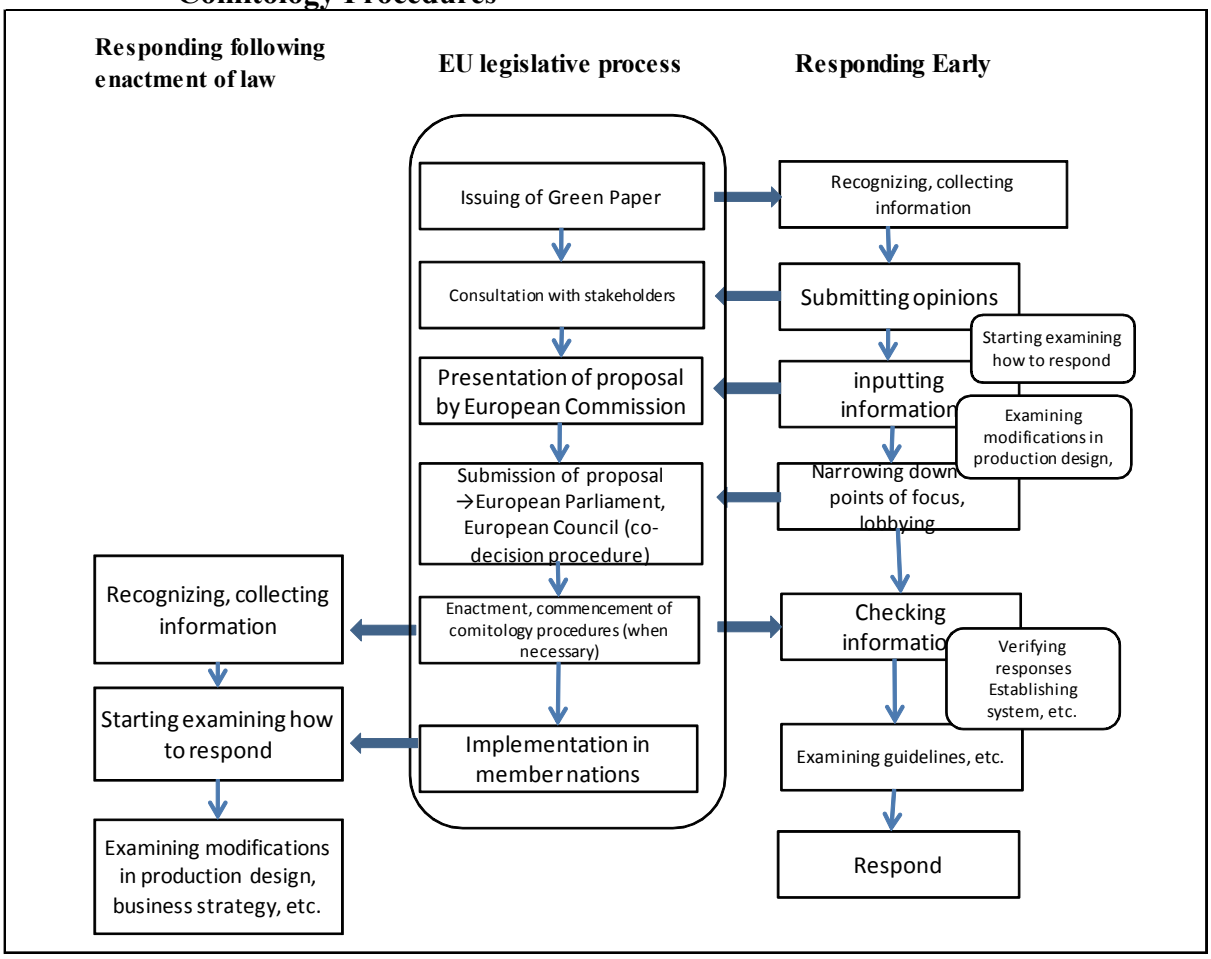
Table II-11 Major EU Environmental Regulations

(August 2009)

Regulation	Date of promulgation	Outline		Target products	Status
		Purpose	Content		
End of life Vehicles (ELV) Directive	2003/7/1	To reduce waste through the collection, reuse, and recycling of scrapped vehicles.	・Obliges establishment of integrated systems for the transportation of vehicles to treatment facilities, the issuing of certificates of scrap, and de-registration of vehicles. ・Prohibits the use of lead, mercury, cadmium, and hexavalent chromium. Certain exemptions are provided. ・Requires the manufacturer to bear the entire cost or the majority of the cost for treatment of the vehicle. ・Increases the recycling rate for scrapped vehicles to 85% or more (until January 2006). Increases the rate to 95% by January 2015.	Automobiles, automotive parts	・In force.
Waste Electrical and Electronic Equipment (WEEE) Directive	2005/8/13	To prevent and reduce waste by increasing the collection and recycling of waste electrical and electronic equipment.	・Obliges establishment of systems for the collection and separation of waste electrical and electronic equipment, pick-up services, and treatment facilities. ・Sets collection target of 4 kg per person per year. ・Requires the manufacturer to bear the cost of collection, treatment, recycling, and scrapping.	Large and small domestic electronic appliances, ITC devices, white goods, lighting products, electrical and electronic tools, toys, leisure goods and sporting goods, medical devices, monitors, vending machines, ATMs, etc.	・In force. ・Proposed revisions are currently under review in the co-decision procedure.
Restriction of Hazardous Substances (RoHS) Directive	2006/7/1	To minimize the destruction of the environment and health risks by restricting the use of specified hazardous substances in electrical and electronic equipment.	・Prohibits the manufacture and sale of electrical and electronic equipment containing more than a specified quantity of six hazardous substances (lead, mercury, hexavalent chromium, cadmium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE). ・Depending on the use of the equipment, use of the substances might be approved. The regulations also do not apply if no substitute substance exists. ・Compliant products are sold bearing the CE Mark.	Large and small domestic electronic appliances, ITC devices, white goods, lighting products, electrical and electronic tools, toys, leisure goods and sporting goods, medical devices, monitors, vending machines, ATMs, etc.	・In force. ・Proposed revisions are currently under review in the co-decision procedure.
Registration, Evaluation, Authorization, and Restriction of Chemicals	2007/6/1	To enhance the protection of human health and the environment while promoting technological innovation and maintaining the competitiveness of the chemicals industry.	・Registration: Companies manufacturing or importing 1 tone or more of chemical substances are required to submit the necessary documents, including technological documents and Chemical Safety Reports (CSR), to the European Chemicals Agency (ECHA). ・Evaluation: Evaluation of the CSR, etc., by the ECHA. ・Authorization: Authorization is required from ECHA for the use of substances of very high concern (SVHC). ・Restriction: Based on the results of the risk evaluation by the ECHA, production, use, etc., of substances can be restricted when necessary to reduce risk.	Chemical substances, preparation, products using chemicals.	・In force. ・Pre-registration was completed in December 2008. ・Full registration is presently being conducted.
Energy-using Products (EuP) Directive	2005/8/11	To improve environmental performance throughout product lifecycles through design that considers the environment (ecodesign). Includes elements of energy-saving regulations.	・General requirements: Requires environmental evaluation and formulation of an ecological profile (materials, waste products, etc.) for every stage of a product lifecycle. ・Specific requirements: Sets specific limits for standby power, etc., when a product is used. ・Stipulates the formulation of harmonized standards by EU standardization organizations (CEN, CENELEC, ETSI) based on the New Approach. ・Products named in implementing directives will be sold bearing the CE Mark after a declaration of conformity has been made.	All energy-using products. Products for which implementing measures have been formulated or are under review include boilers, water heaters, PCs, batteries, lighting, street lighting, air conditioners, set-top boxes, vacuum cleaners, refrigerators, etc.	・Implementing measures by product are presently being introduced. ・An Action Plan has been announced, and is presently under review in the co-decision procedure.

(Source): EU documents, etc.

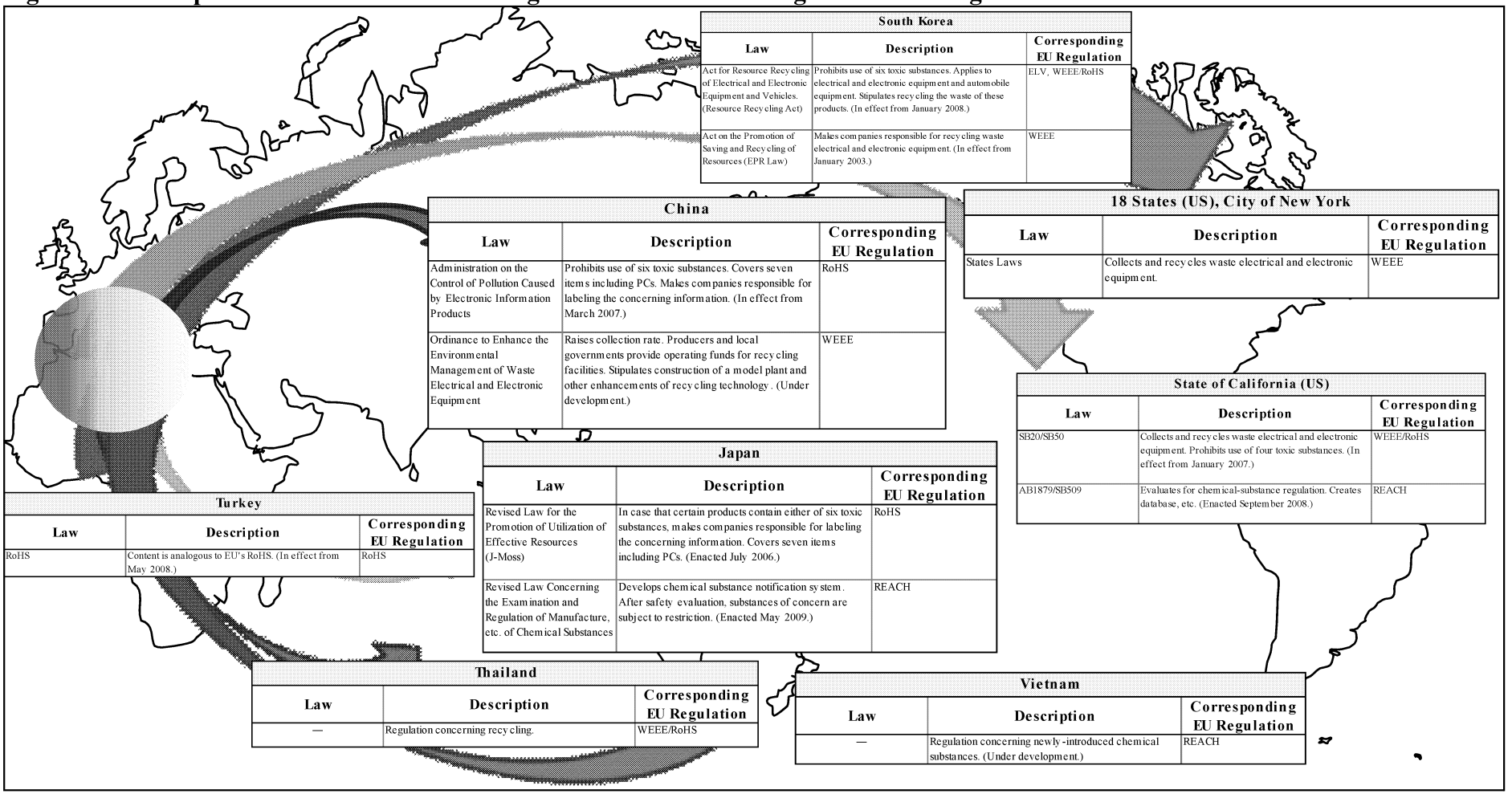
Figure II-3 Illustrated Examples of Response by Companies to the Co-decision and Comitology Procedures



(Note) The co-decision procedure is employed in the establishment of all EU laws and regulations; the comitology procedure is used in the case of the establishment of detailed regulations (implementing measures, etc.) by the European Commission.

(Source) Formulated from Japan Business Council in Europe documents.

Figure II-4 The Spread of the EU's Product-Targeted Environmental Regulations Throughout the World



South Korea

Law	Description	Corresponding EU Regulation
Act for Resource Recycling of Electrical and Electronic Equipment and Vehicles. (Resource Recycling Act)	Prohibits use of six toxic substances. Applies to electrical and electronic equipment and automobile equipment. Stipulates recycling the waste of these products. (In effect from January 2008.)	ELV, WEEE/RoHS
Act on the Promotion of Saving and Recycling of Resources (EPR Law)	Makes companies responsible for recycling waste electrical and electronic equipment. (In effect from January 2003.)	WEEE

China

Law	Description	Corresponding EU Regulation
Administration on the Control of Pollution Caused by Electronic Information Products	Prohibits use of six toxic substances. Covers seven items including PCs. Makes companies responsible for labeling the concerning information. (In effect from March 2007.)	RoHS
Ordinance to Enhance the Environmental Management of Waste Electrical and Electronic Equipment	Raises collection rate. Producers and local governments provide operating funds for recycling facilities. Stipulates construction of a model plant and other enhancements of recycling technology. (Under development.)	WEEE

18 States (US), City of New York

Law	Description	Corresponding EU Regulation
States Laws	Collects and recycles waste electrical and electronic equipment.	WEEE

State of California (US)

Law	Description	Corresponding EU Regulation
SB20/SB50	Collects and recycles waste electrical and electronic equipment. Prohibits use of four toxic substances. (In effect from January 2007.)	WEEE/RoHS
AB1879/SB509	Evaluates for chemical-substance regulation. Creates database, etc. (Enacted September 2008.)	REACH

Japan

Law	Description	Corresponding EU Regulation
Revised Law for the Promotion of Utilization of Effective Resources (J-Moss)	In case that certain products contain either of six toxic substances, makes companies responsible for labeling the concerning information. Covers seven items including PCs. (Enacted July 2006.)	RoHS
Revised Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances	Develops chemical substance notification system. After safety evaluation, substances of concern are subject to restriction. (Enacted May 2009.)	REACH

Turkey

Law	Description	Corresponding EU Regulation
RoHS	Content is analogous to EU's RoHS. (In effect from May 2008.)	RoHS

Thailand

Law	Description	Corresponding EU Regulation
—	Regulation concerning recycling.	WEEE/RoHS

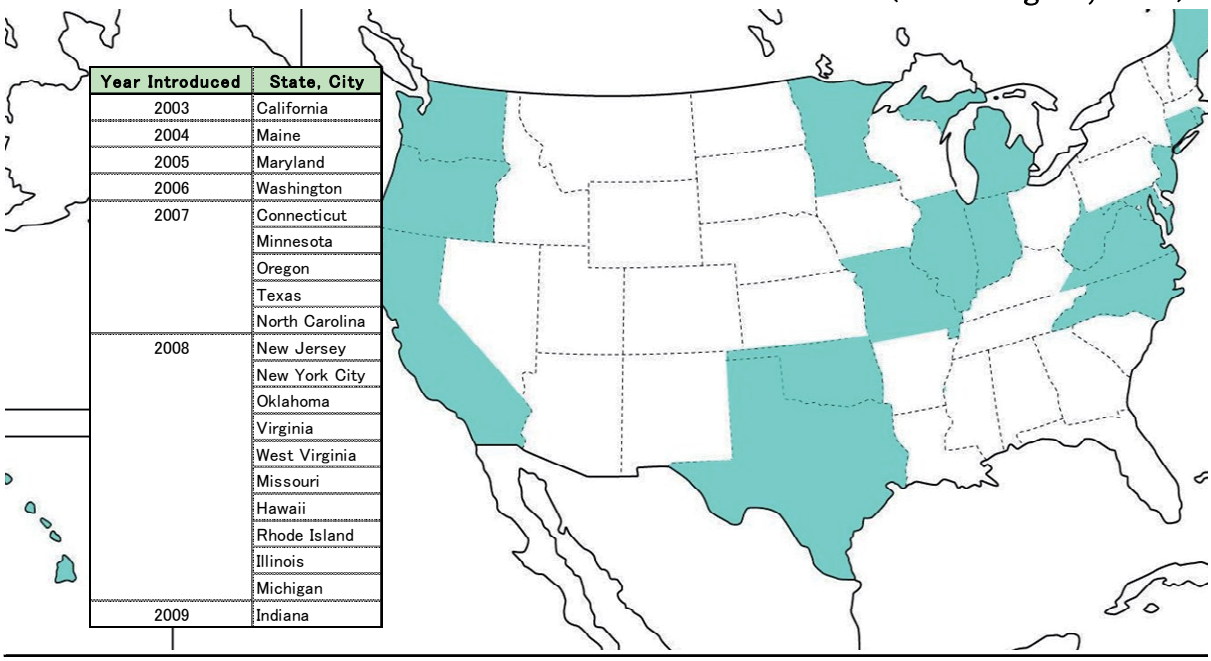
Vietnam

Law	Description	Corresponding EU Regulation
—	Regulation concerning newly-introduced chemical substances. (Under development.)	REACH

(Source) Prepared based on various materials.

Figure II-5 The Spread of Laws Regarding Wasted Electric and Electronic Equipment throughout the U.S.

(As of August, 2009)



Year Introduced	State, City
2003	California
2004	Maine
2005	Maryland
2006	Washington
2007	Connecticut
	Minnesota
	Oregon
	Texas
	North Carolina
2008	New Jersey
	New York City
	Oklahoma
	Virginia
	West Virginia
	Missouri
	Hawaii
	Rhode Island
	Illinois
	Michigan
2009	Indiana

(Source) JETRO Daily, National Electronics Recycling Infrastructure Clearinghouse.

Table II-12 TRIPS-Plus Clauses in US FTAs

TRIPS-Plus Type	Specific Example	Examples of Relevant FTA
Requirement to join IP related treaties	Requires membership in WIPO Copyright Treaty and WIPO Performances and Phonograms Treaty	All FTAs
	Requires membership in International Union for the Protection of New Varieties of Plants (UPOV)	Singapore, Australia, CAFTA-DR, South Korea
Level of protection surpassing TRIPS	Extends the copyright protection period (from 50 years after author's death to 70 years)	All except for Jordan
	Protects trademarks on sounds and scents	Singapore, Chile, Australia, CAFTA-DR, South Korea
	Enhances protection for well-known marks	Singapore, Chile, Morocco, South Korea
	Strengthens protection of test data on pharmaceuticals	Singapore, Chile, Australia, CAFTA-DR, South Korea
	Extends patent protection period to compensate for delay in granting patent	Singapore, Chile, Australia, CAFTA-DR, South Korea
Rules and regulations on areas not addressed by TRIPS	Strengthens protection against technological development, such as prohibiting the circumvention of technological protection measures	Free Trade Area of the Americas (FTAA), NAFTA, Singapore, Chile
	Limits ISP (Internet service provider) responsibility	Singapore, Chile, Australia, South Korea
	Contains stipulation on patent exhaustion issue, not yet being subject to discussion in the WTO	FTAA, Singapore, Australia, Morocco
Limits range of discretion allowed by TRIPS	Limits scope of compulsory licensing	Singapore, Australia
	Denies exceptions to patentability allowed in TRIPS Article 27 (3)	NAFTA, Jordan, Singapore, Chile
	Moves up deadline for interim measures in TRIPS Agreement for obligations pertaining to FTAs concluded with the US and for some treaties in which membership is required by an FTA with the US	Singapore

(Note) "Examples of Relevant FTAs" includes those not yet in effect. FTAA is the third iteration.
(Sources) Prepared based on the Office of the US Trade Representative, the International Association for the Protection of Intellectual Property (AIPPI) of Japan and others.

Table II-13 European Commission Fines Levied Against Japanese Companies for Cartel Behavior (2003-June, 2009)

(1,000 euro)

Company Name	Target Product	Year	Value
Pilkington	Automobile glass	2008	370,000
YKK	Fasteners	2007	150,250
Pilkington	Flat glass for construction	2007	140,000
Mitsubishi Electric	Gas insulated switchgear	2007	118,575
Asahi Glass	Automobile glass	2008	113,500
Toshiba	Gas insulated switchgear	2007	90,900
Asahi Glass	Flat glass for construction	2007	65,000
Bridgestone	Marine hose	2009	58,500
Hitachi	Gas insulated switchgear	2007	51,750
Sony	Professional videotape	2007	47,190
Denka	Chloroprene rubber	2007	47,000
Daicel Chemical Industries	Sorbates	2003	16,600
Hitachi Maxell	Professional videotape	2007	14,400
Fuji Film	Professional videotape	2007	13,200
Ueno Fine Chemicals	Sorbates	2003	12,300
Nippon Synthetic Chemical Industry	Sorbates	2003	10,500
Zeon Corporation	Nitrile butadiene rubber	2008	5,360
Tosoh	Chloroprene rubber	2007	4,800
Fuji Electric	Gas insulated switchgear	2007	3,750
Fujisawa Pharmaceutical Co	Sodium gluconate	2004	3,600
Japan AE Power Systems	Gas insulated switchgear	2007	1,350

(Notes) (1) Pilkington was acquired by NSG Group in 2006.

(2) Japan AE Power Systems is a joint venture company of Hitachi, Fuji Electric and Meidensha.

(3) Fujisawa Pharmaceutical is now Astellas Pharma.

(Source) Prepared based on European Commission material.

Table II-14 Japan's Antitrust Agreement and FTA Competition Provisions

(Year represents entry into effect)

	Antitrust Agreement			Free Trade Agreement										
	US	EU	Canada	Singapore	Mexico	Malaysia	Chile	Thailand	Indonesia	Brunei	Philippines	ASEAN	Switzerland	Vietnam
	1999	2003	2005	2002	2005	2006	2007	2007	2008	2008	2008	2008	Signed	Signed
Notification	○	○	○	△Note 1	○			○	○				○	△
Enforcement assistance	○	○	○	△Note 1	○			△	△				○	△
Enforcement coordination	○	○	○		○			△	△				○	△
Positive comity	○	○	○		○								○	
Conflict avoidance (negative comity)	○	○	○		○								○	
Confidentiality of information	○	○	○	○	○			○	○				○	
Consultation	○	○	○	○	○	○		○	○		○		○	△
Technical cooperation				△	○	○		○	○		○			○
Transparency				○	○	○	△	○	○		○		○	
Review				○		○		○	○		○			

(Notes) (1) For Singapore, "notification" and "enforcement cooperation" only pertain to telecommunications, energy and gas sectors. Elsewhere △ denotes the existence of general provisions only, with no specific implementation stipulation.

(2) Vietnam and Chile include only general content in the agreement language, no detailed stipulations.
FTAs with Brunei and ASEAN do not include any competition stipulation.
Other EPAs include provisions in the agreement wording, stipulating detailed procedures in implementing agreements.

(3) As of the end of 2008, Malaysia and the Philippines had no antitrust law.

III. New Business Opportunities in the Environmental Market and Service Market

1. Global Environmental Market and Approaches of Japanese Companies

(1) Efforts for market expansion and future growth strategies of Japanese companies

Responding to the global economic crisis triggered by the "Lehman Brothers Shock," individual countries have taken proactive economic measures to create demand and promote industry. In particular, the environmental sector is drawing much attention as a potential source of growth, in which many countries intensively inject their resources and budgets. Of the ¥15.4 trillion economic stimulus package prepared by the Japanese government in April 2009, ¥1.6 trillion has been allocated to environmental measures. On the international scene, President Barak Obama of the United States announced a $150 billion ten-year renewable energy initiative to create five million new jobs, fulfilling a campaign policy. In China, 5.3% of its 4 trillion yuan (¥57 trillion) economic stimulus package has been secured for the environment-related budget (approx. ¥3 trillion). European countries have taken measures to support switching to low-emission vehicles.

Progress in discussions at the meeting for formulation of a post-Kyoto Protocol framework to be held in Copenhagen in December 2009 will indicate the efforts of individual countries in environmental control and environmental protection as well as the direction in which the control and protection will be enhanced.

Environmental business will grow on a global scale, including in Japan, and create huge business opportunities for Japan, which has excellent technologies and products in this sector, through continuous corporate efforts. With respect to the service industry, in which Japan is said to have weak international competitiveness, delicate and high quality services in Japan have been widely accepted particularly in emerging economies, including Asia.

This chapter examines the current status and future prospects of the environmental market and service market in individual countries, which may offer substantial business opportunities to Japanese companies.

■ **Overseas production ratio for the environmental business sector is 5.5%.**

According to a questionnaire survey on Japanese firms with respect to the environment-related business (Survey period: April-May 2009; Effective responses: 813; Effective response rate: 24%), 88.7% of companies answered that environmental industries will continue to grow in the future. Only 2.1% responded that they would not launch into an environmental market since the prospect of the market is uncertain.

Of those companies that responded that growth was expected, 39.8% have been or plan to be engaged in domestic production/sale of eco-goods and services and 29.9% have been exporting or plan to export such products and services. However, only 11.8% of them have actually been engaged or plan to be engaged in production/sale by establishing a production/sales center of eco-goods and services in foreign countries.

The percentage of companies that have actually been exporting eco-goods and services was 17.6%, while 12.3% are planning to export. Since Japan's export-to-GDP ratio is about 16%, it is fair to conclude that incentives for export/sale in the environmental industry are slightly higher than average. However, according to the Ministry of Economy, Trade and Industry, the overseas production ratio of all Japanese companies was 19.1% in 2007. The fact that the percentage of overseas production/plan for production of eco-goods and services is limited to a little more than 10% (specifically, the percentage of companies producing/selling such products is 5.5% and those considering the production/sale is 6.3%) means that there is plenty of room for business expansion overseas.

The proportion of companies that responded that they cannot afford to tap into the environmental industry for the time being, although the growth is expected to be strong, was

37.6%. This suggests the possibility that these waiting groups for environmental industry may dash into the green market in a domino effect, as the global environmental industry expands and as Japan's industry goes green.

== Figure III-1 ==

In response to a question about which sector of environment-related products a company sells domestically and exports, the frequently cited answers for both domestic sale and export were water treatment devices (domestic sale 10.7%, export 4.7%), waste/raw garbage treatment devices (domestic sale 10.2%, export 3.0%), eco-paints/adhesives (8.5%, 4.7%), photovoltaic (PV) cells (7.2%, 4.1%), renewable energy (excluding PV cells) (6.9%, 5.0%), vehicles (electric, hybrid, fuel cell vehicles) (6.3%, 4.4%) and wastewater treatment (6.3%, 3.6%). The environmental industries in which a number of companies are engaged in exports are believed to be those in which Japan has a competitive advantage. The questionnaire did not include such sectors as energy-saving home appliances, biofuels, carbon capture and storage, eco-materials such as bioplastics, and nuclear power generation, but Japanese companies are said to have a competitive advantage in these sectors.

== Figure III-2 ==
== Figure III-3 ==

As for challenges in the development of environmental business, the most frequent answer was "environmental markets in emerging economies are immature" at 26.2%. This is followed by "the cost of eco-goods and services is high compared with conventional products" at 22.9%, "lack of information on environmental markets in other countries" at 20.7%, "the size of environmental markets in other countries is still small" at 19.3%, "consumers' interest is low" at 16.5%, "profitability of environmental business is low" at 14.3%, and "incentives are insufficient" at 13.2%.

== Figure III-4 ==

In short, the fact that an "immature market," "small market size," "high cost," and "insufficient incentives" are ranked high on the list of challenges in the environmental market indicates that the market as a whole is not mature enough to generate sufficient profits exceeding the production and development cost and that the sector is going to expand and develop in the future. Therefore, in order for the environmental market to mature, the role and contribution of the government are increasingly necessary, which include regulations and incentive measures.

The contributing factors to an increase in income of emerging economies, such as BRICs, before the financial crisis are: (i) increase in the price of energy resources, (ii) economic expansion led by exports (iii) increase in remittance from abroad and (iv) increase in investment from abroad. When this is applied to Japan, technological development and sales promotion in an alternative energy sector, such as renewable energy, are required to achieve success in the energy resource sector. As an economic stimulus package to address the financial crisis, the United States prepared a budget of more than $70 billion for environmental measures (including tax reduction), China more than $30 billion, and Korea $30 billion in four years. In order to strengthen Japan's competitiveness, we need to integrate environmental measures by the both public and private sectors.

With respect to the second factor of economic expansion led by exports, Japan should take export-promotion measures highlighting environmental industries (low emission vehicles,

wind and PV power generation, etc.) which are expected to grow strongly despite the financial crisis. As for the third sector of remittance from abroad, since increase of employment of Japanese citizens in foreign countries cannot be expected, this can be alternatively worked out by increasing income from abroad through promotion of expansion of foreign investment and overseas M&A. In order to expand foreign investment in environmental business, it is essential to spur demand in emerging markets, particularly in Asia, by effectively utilizing economic assistance/aid for environmental business in these regions.

The result of the questionnaire suggests that helping environmental industries expand the international markets is necessary since the overseas production ratio in the environmental industry is lower than the industrial average. Also, bringing profits generated overseas back to Japan can help to revitalize the national economy, resulting in an expansion of investment from abroad, which is the fourth factor.

In order to take careful policy measures for a diversified environmental industry sector, accurate understanding of market trends is necessary. To do so, statistical data must be developed to allow accurate understanding of the environmental market as a whole. Such data will enable the companies and government to advance into the environmental market, to comprehensively evaluate the sector-wise competitiveness of Japanese companies and to identify which environmental industries should be enhanced and supported by the government.

Furthermore, measures, such as holding of and participation in symposiums and trade shows for Japan's environmental business, and support for exports and global expansion are also necessary. It is desirable to provide information and consultancy for environmental markets of emerging economies, let alone of developed countries.

== Table III-1 ==

(2) The global environmental market driven by renewable energy and low carbon sectors

■ Expanding global environmental market

Public awareness of global warming is growing. It has been pointed out that a massive increase in the volume of greenhouse gases, such as CO^2, attributes to an increase in the temperature. Thus, a reduction in CO^2 has been listed as a major goal of environmental measures. The traditional environmental measures had targeted such areas as prevention of air and maritime pollution, purification of soil and water quality, waste and wastewater treatment and resource and water recycling. However, in the future, sectors related to CO^2 reduction need to be considered as potential environmental business.

One of the sectors in CO^2 reduction is renewable energy. Major business areas in the renewable energy include PV power generation, which is drawing much attention these days, hydro, wind, geothermal, tidal and wave power generation and biomass. In the renewable energy sector, energies are generated by utilizing phenomena that occur repeatedly in nature, such as the sun and wind, instead of exhaustible resources such as oil. Unlike exhaustible resources, renewable resources are CO^2 free and could supply energy virtually for an infinite period of time.

Biomass energy is produced from such resources as paper, raw garbage and thinned wood. Since they are originally photovoltaic energy captured by plants, they are classified as an area of renewable energy. Biomass energy is produced by burning carbons captured by plants and thus is carbon neutral without an increase in CO^2.

A number of low carbon-related sectors with reduced CO^2 emissions are emerging as new environmental businesses, represented by alternative fuels such as bioethanol/hydrogen for

automobiles, batteries, and nuclear power generation, hybrid and electric vehicles, which are recently drawing increasing attention, energy-conserving technologies, such as inverter air-conditioners, eco-materials, such as bio-plastics, eco-houses fitted with insulation, carbon capture and storage devices and carbon finance.

Therefore, when considering the global environmental business, it is essential to take three business categories into consideration: namely, the renewable energy sector and low carbon sector, in addition to the traditional environmental sector. The traditional method of calculating the size of the environmental market simply incorporated the traditional environmental sector, but today, the renewable energy sector has been added, demonstrating the progress in understanding the environmental market to capture the actual conditions as much as possible, but it is more desirable to incorporate the low carbon sector, where Japan is strong. It is necessary to incorporate the environmental businesses that are being gradually penetrated into a variety of industries by expanding the coverage as much as possible.

With this as a backdrop, the Department for Business Enterprise & Regulatory Reform (BERR) of the United Kingdom released a report entitled "Low Carbon and Environmental Goods and Services: an industry analysis" in March 2009. The report defines the global environmental market as being composed of traditional environmental activities, renewable energy technologies and low carbon activities[1].

BERR estimates the global market value to be £3.046 trillion in FY2007/08 (which is equal to ¥605 trillion with a conversion rate of ¥198.75 to a pound as of the end of March 2008: British fiscal year is from April 2007 to March 2008). Since the definition includes a wide range of sectors, giving consideration to the supply chain, such as procurement of materials and parts, BERR's estimates on the global market are considerably larger than other estimates. BERR estimates the global market value to be £4.417 trillion in FY2014/15, an increase by 45% in seven years. BERR's method of estimation indicates a direction to understand the global markets. However, it still seems necessary to develop even more accurate and reliable data by refining the definition of the environmental business and the method of estimation.

The global environmental market value of ¥605 trillion in 2007/08 is slightly above Japan's GDP (approx. ¥550 trillion). The world's GDP in 2007 was $54 trillion (¥6,359 trillion), and the ratio of estimated global environmental market by BERR to the world's GDP is 9.5%. Roughly speaking, the market accounts for about 10% of the world GDP, which is already quite sizable.

== Table III-2 ==

The market value of the traditional environmental sector in 2007/08 was £657.3 billion (¥131 trillion), accounting for 21.6% of the market share, renewable energy sector £939.8 billion (¥187 trillion) with 30.9% and low carbon sector £1.4487 trillion (¥288 trillion) with 47.6%. In short, according to the estimate of BERR based on a major classification, the share of the low carbon sector is the largest, followed by the renewable energy sector and then the traditional environmental industry.

== Figure III-5 ==

The reason for the high share of the low carbon sector can be explained by the ratio of the

[1] The report is available on the following BERR website (URL). The definition of the environmental business market is listed in Appendix 1, p101-103 (http://www.berr.gove.uk/files/file50253.pdf).

composition based on sub-major classification. For example, the largest by market value in the sub-major classification is alternative fuels (18.5%), part of the low carbon sector, eco-building technologies is ranked second (12.8%) and alternative fuels for vehicle forth position (11.1%). In the renewable energy sector, wind power generation devices/services are ranked third place (11.5%), geothermal generation devices/services are fifth (9.1%), PV power generation eighth (4.7%) and biomass tenth (4.6%). In the traditional environmental sector, water/waste water treatment is in the sixth spot (7.8%), recovery & recycling the seventh spot (6.1%) and waste management the ninth (4.6%). Energy-saving products are 11th with 2.4% and carbon finance is 13th with 1.0%, both of which belong to the low carbon sector.

== Figure III-6 ==

Thus, the characteristic of the environmental market as a whole is that the share of alternative fuels, such as biofuels, batteries and nuclear energy, is high. The eco-building market has grown to be the second largest market. PV power generation has attracted much attention in the renewable energy sector, which is 2.5 times the size of the wind power generation and is expected to grow even more in the future. Geothermal power generation is nearly twice the market size of PV generation. In the traditional environmental sector, the market sizes of water/wastewater treatment, recovery & recycling and waste management are large. During FY2007/08, it was estimated that the market sizes of water/wastewater treatment, capture & recycling and waste management were larger than that of PV generation. Japan is strong in the energy-saving product sector but its market size in the U.K. is not as large as the top 10 sectors. Thus, Japan needs to develop strategies toward sales expansion.

The method of calculation of the environmental market by BERR uses “bottom-up” data related to the sales activities of industries and companies and classifies the data into the 2490 minimum classification sectors based on the statistics of international organizations, universities and research institutes, which are then bottomed up into minor, sub-major and major classifications. This method of bottom-up calculation requires accurate counting to avoid double counting.

The environmental market by BERR includes a supply-chain market which provides materials and parts to companies specializing in environmental business. For the calculation of the environmental market, BERR separates the specialist and supply chain; and the market share of the specialist in the overall environmental business is 52%. The market share of the specialist is 48% for the traditional environmental industry, 58% for the renewable energy sector and 49% for the low carbon sector. The ratio of specialist for the renewable energy sector is relatively high at around 60% and the remaining two sectors are around 50%. BERR estimates the proportion of manufacturing activities to be 32% of the global environmental market.

== Figure III-7 ==

An overview of the BERR’s global market by region shows that Asia and the Far East have the largest share with 35.8%, followed by North and Central/South America with 30.1%, Europe with 27.2%, Africa with 3.8%, the Middle East with 1.9%, and Oceania with 1.2%.

== Figure III-8 ==

The figures by country shows that the United States has the largest share with £629.1 billion (¥125 trillion) accounting for 20.6%, followed by China with £411.4 billion (¥82

trillion) at 13.5%, Japan £191.3 billion (¥38 trillion) at 6.3%, India £190.8 billion (¥38 trillion) at 6.3%, and Germany £127.6 billion (¥25 trillion) at 4.2%. The top four countries (to India) account for 47% of the global market value and the top 11 countries (to Russia) 68% and top 17 countries (to Australia) 77%.

The characteristics of top countries are that the United States has the largest environmental business market, that three Asian countries (Japan, China and India) are included in the top 5 list and that European countries (U.K., France, Spain and Italy) occupy the sixth through ninth spots.

== Figure III-9 ==

BERR identifies wind power generation, PV generation, carbon finance, alternative fuels including automobiles, geothermal generation, biomass and eco-building technologies as sectors with high growth potential. Japan, the United States and European countries have an equal level of environmental technologies and are considering the expansion of these prospective sectors in China and India. However, China has been expanding the business in wind power generation and PV generation aiming for the global market, and the competition with Japan, the United States and Europe is expected to become fierce.

It is clear that the growth rates of the renewable energy sector and low carbon sector will continue to be higher than that of the traditional environment sector. Bio-fuel technology, such as bio-ethanol, has become the main stream in some developing countries. Since the environmental business is the most promising sector for the future, the role of the government is crucial. Therefore, accurate understanding of measures and policies of other countries is the key to having Japan equipped to lead the business expansion in the global environmental market.

■ **High expectation on political instruments in the environmental market**

The German Federal Environment Agency issued a report entitled "Innovative Environmental Growth Markets from a Company Perspective" in November 2007. The report estimates the global environmental market in 2005 to be around €1 trillion (equivalent to ¥137 trillion at a rate of ¥136.89 to €1 (an average of 2005)). The report also predicts that the global market will continue to grow over the coming years and that, by 2020, the total market value will reach €2.2 trillion (an average growth rate of 5.4%). The global market size by the German Federal Environmental Agency is smaller than that by the aforementioned BERR. The global market size of ¥137 trillion estimated by the German Federal Environmental Agency indicates that the market size will reach around ¥152 trillion in 2007, assuming that the market expands by 5.4% per year. Since the estimated value of BERR, on a fiscal year basis, is ¥605 trillion, the estimate by the German Federal Environmental Agency is only one quarter of the BERR's. The gap in the market size seems attributed to the difference in the capture rate of the supply chain and in the coverage of the low carbon sector, such as alternative fuels.

== Figure III-10 ==

The global market value of ¥137 trillion estimated by the German Federal Environmental Agency is classified into six categories. The largest sector is energy efficiency with €450 billion (¥62 trillion) in 2005, which is expected to be doubled to €900 billion by 2020. This sector comprises several sub-markets such as energy-saving home appliances, solar cooling systems, heat insulation materials, measuring instruments, etc. The second largest market is sustainable water management, which reached €190 billion in 2005 and is expected to reach

€480 billion by 2020. This is composed of water supply, wastewater treatment and water control. The growth potential of this sector is high since an investment in water-related infrastructure in developed countries is expected to grow strongly.

The third largest market is sustainable mobility which is expected to grow to €350 billion from €180 billion. The main markets of this sector are bio-diesel and related equipment, hybrid vehicles, and an advanced traffic management system. Sales of hybrid vehicles are projected to grow to eight million units in 2020. The fourth largest sector is power generation and storage, which is forecasted to increase to €280 billion from €100 billion. This sector includes renewable energy.

The fifth largest market is material efficiency with an estimated size of €50 billion as of 2005. The bioplastics market was merely €600 million in 2005 but is expected to expand rapidly to €11.3 billion in 2020. The sixth largest is waste management and recycling which is expected to grow from €30 billion to €46 billion. The installation of automatic separation of materials is not making progress on a global scale, and the market is expected to grow from about €200 million in 2005 to €1.4 billion by 2020.

== Figure III-11 ==

As described above, the report from the German Federal Environmental Agency lists the product and service sectors with the highest growth potential: namely, water management, PV power devices, hybrid vehicles, solar cooling systems, automatic separation of materials, carbon capture and storage technology, effective storage of electrical energy using compressed air and hydrogen, bioplastics and biopolymers, membrane technology, and biofuels.

== Figure III-12 ==

The report organized the views of the private sector concerning measures that would link the environmental business with growth, based on interviews with German corporations. They all expressed high expectations of the government. The report cites some success factors of environmental business. For example, governments should set environmental targets supporting the development of innovative technology. Governments also should stimulate demand in environmental markets through active support for public procurement and commercial launch programs.

Incentives for buying hybrid vehicles and information campaigns by governments are also effective. The report also emphasizes the importance of making the level of innovation achieved by the best-performing companies the new standard for the industry; and it lists the case of Japan’s Top Runner Program as its example. In addition, the report calls for training for a skilled workforce, R&D support for small- and medium-size enterprises and expansion of access to financial resources. Furthermore, the report stresses the importance of long-term subsidy programs lasting 10 or 20 years to support considerable investments in technologies associated with PV power generation, wind power generation, alternative fuels and compressed air storage.

The needs of the German corporations seem to be directly linked with the measures for environmental business in Japan. For that matter, Japan’s local governments will play a considerable role for the future of environmental business. It is thus necessary to draw up measures that would contribute to local revitalization in the renewable energy sector, such as PV/wind power generation, in pursuit of the method for waste treatment/recovery, water reuse and resource reuse, while making full use of the characteristics of local communities.

As political instruments, it is necessary to develop statistics on the environmental market.

Currently, the environmental market is measured based on the individual definitions by individual countries, which makes it difficult to accurately grasp the current status of the global market, which is broadening its horizon. The coverage of definitions adopted by the United States and Germany does not reflect the actual state of environmental business, and underestimates the market. In reality, individual countries cannot grasp the accurate environmental market, which impedes the effective formulation and execution of political instruments. Thus, now is the best opportunity for Japan to lead the world since Japan's environmental industry has competitive strengths, and to exert leadership in developing environmental statistics as the world's standard.

Concurrently with the development of environmental statistics, it is also important to identify and analyze Japan's strengths and weaknesses in various areas of environmental energy technology and product development, and disclose the results. This would greatly contribute to R&D strategies of Japanese companies for environmental business and to promotional measures of the government.

■ **Environmental technologies in which Japan has strengths, such as PV cells and hybrid vehicles**

The Japan Patent Office has released a press release entitled "Survey on Technological Trends of Patent Applications: Japan's Technological Competitiveness Seen from Patents, Part 1: Environment/Energy, etc." in April 2009. The report compares the ratio of patent applications filed by individual countries in Japan, the United States, Europe, China and South Korea, and examines Japan's competitiveness in six areas, including PV cells and electrically propelled vehicles (electric/hybrid vehicles).

Of the 7970 applications for PV cells from 2000 to 2006, Japan accounts for 68%, far ahead of Europe, which is in second place (15%), with the United States in third place (11%), South Korea in fourth (3%) and China fifth (1%).

Particularly, Japan has an overwhelming number of patent applications for silicon PV cells, which account for 90% of the total PV production, with the percentage exceeding 70%. However, the share of patent applications of Japanese companies for the next-generation organic semiconductor PV cells is lower than the sum of applications of the United States and Europe, and Japan's advantage wears off. Also, the number of papers on organic semiconductors is significantly fewer than that of Europe. Therefore, it is necessary to focus on the development of materials to improve the energy transformation efficiency of the next generation organic semiconductors.

Of the number of patent applications in Japan, the United States, Europe, China and South Korea for electrically propelled vehicles from 1995 to 2006, Japan ranks first at 72%. Europe took second place with 14% and the United States third with 8%. Japan has a particularly high number of patent applications for hybrid vehicles. As for the share of the number of patent applications for electrically propelled vehicle technologies during the period between 2001 and 2006, U.S. companies have 10%, China 3%, and South Korea 4%. The more recent it is, the higher the shares of the United States/China/South Korea become. Japanese companies are required to establish an intellectual property portfolio, making effective use of an overwhelming number of intellectual property rights.

== Figure III-13 ==

Besides PV cells and electric/hybrid vehicles, there seem to be many environmental sectors in which Japanese technologies have strengths. Typical examples of such technology are turbines and parts for wind power generation and energy-saving technologies for household appliances, etc. Also promising is a smart grid for electricity storage and accurate

control of supply and demand of electricity, as well as water treatment devices, waste treatment devices, environmental assessment devices, recycling of wastes, including household appliances, eco-materials such as bioplastics, eco-building technologies and nuclear power generation.

It is necessary to develop a system to comprehensively evaluate technological capacity, product development capacity, product appeal, engineering capacity and service provision capacity throughout the entire environmental industry in Japan. At the same time, it seems crucial to implement political instruments, such as support measures and export promotion. Germany has already launched comprehensive support projects and export promotion for environmental industries in 2003. The German government takes active measures to promote global business opportunities for German corporations by holding symposiums, participating in trade shows and conducting business matching with foreign companies.

(3) Sizes and characteristics of the world's environmental markets

■ Accelerating growth of the renewable energy market in the United States

The United States does not have official data on the latest environmental market to comprehensively cover the actual state of low carbon sector, such as alternative fuels, hybrid/electric vehicles, and Carbon Capture and Storage (CCS). In fact, many countries do not release data on the environmental market with reference to the renewable energy sector and low carbon sector. The fact that this is happing in Europe and the United States, where standardization is a matter of daily practice, demonstrates how much the environment market has been preoccupied with the image of a traditional sector, such as water management, waste treatment and air pollution.

Renewable energy and low carbon sectors have attracted much attention since the break out of the financial crisis, and their market size has already exceeded that of traditional environmental activities. However, there is a lot of data of individual countries, including those of the United States, to show the contrary. It is necessary to establish common statistics that reflect the actual status of the environmental market, in this respect, too.

A U.S. magazine, Environmental Business Journal (EBJ), classifies the environmental market into three categories (i) pollution control services, (ii) pollution control devices and (iii) effective utilization of resources. The first two categories are derived from the traditional pollution control sector. In the last one, the renewable energy sector is added to a traditional sector of water/resources reuse. In short, the definition of an environmental market by the EBJ does not consider business associated with alternative fuels, such as biofuels, hybrid/electric vehicles and carbon finance.

EBJ estimates the U.S. environmental market value in 2007 to be $302.3 billion (equivalent to ¥35.6 trillion, ¥117.75 = $1) and forecasts it will reach $349.3 by 2010. The pollution control services and devices account for nearly 70%. The sector of effective resources utilization, including renewable energy in the spotlight, is limited to 32.2%. The pollution control service accounts for nearly half or 46.6%, almost twice as high as the pollution control devices (21.1%). In particular, the United States' characteristic is that it has strengths in the service industry, with a high ratio of waste treatment service and wastewater treatment service, and high share of consultancy/ engineering at 8.5%.

The market of pollution control service grew by 1.5 times during the period between 1970 and 2000, which is much higher than the United States' eight-fold GDP growth. On the contrary, growth of the market for pollution control devices was rather dull. In recent years, environment-related venture capital (VC) has injected 75% of its investment into the renewable energy sector. To confirm the data, the renewable energy market has shown a steep growth since 2000 and is projected to grow twice the size in 2010. The pollution control service is estimated to grow by 52% and pollution control devices by 30% during the same

period. Considering the impact of measures in an economic stimulus package since the financial crisis, the United States' renewable energy market after 2010 is forecasted to constantly grow with a steeper slope. Needless to say, the low carbon market is expected to grow dramatically, too, being positively affected by the renewable energy market.

The effective use of resources, which is the third element in the U.S. environmental business market, is expected to grow rapidly, and in 2007 it registered an increase of 13.8% over the previous year. Of the effective use of resources, the proportion of water reuse was 39%, resources reuse 32% and renewable energy 29%. Water reuse is an attempt to reuse the water generated through the production processes, etc. and resources reuse refers to capture and recycling of non-toxic chemical and industrial/corporate waste materials. These businesses have gained momentum along with an increased awareness of consumers.

== Table III-3 ==

The growth rate of consumption of renewable energy from 2004 to 2007 was 11.1%. The growing sectors include wind power generation (177%), biomass as a whole (28.3%) (of which biofuels increased by 146%) and PV power generation (25%).

Among all energy production in the United States in 2008, fossil fuels accounted for 78.6%, of which coal and natural gas was high; together they accounted for more than 60%. Nuclear generation was 11.5%, accounting for 9.9% of all renewable energy production.

The proportion of wind power generation of all renewable energy production was 33.5%, wind power 7.0%, PV 1.2%, geothermal 4.9% and biomass 53.3%. The proportion of renewable energy (excluding wind power generation) was high in the state of Maine in 2007 at 26%, followed by the state of California at 12%. The proportion was relatively high in the states of Vermont at 8%, Minnesota 7.2%, and Hawaii 6.5%. Wind and biomass have traditionally been active in Maine. Nonetheless, when the scale is taken into account, California is absolutely outstanding in the use of renewable energy.

== Figure III-14 ==

According to the National Renewable Energy Laboratory (NREL) of the U.S. Department of Energy, the United States has 27% of the world's new wind power plants constructed in 2007, leading the rest of the world. China was ranked in second place, followed by Spain, India, Germany and France. According to Renewable Energy Network 21, Germany, Spain and Japan were the top three countries as of the end of 2008 in terms of the cumulative installed PV capacity. As for new installation in 2008, Spain was ranked in first place, and the United States stood at third, following Germany. Japan surrendered the top spot to Germany in 2004, and ranked fourth in 2008.

According to the U.S. Energy Information Administration (EIA), the United States has the world's largest volume of geothermal generation in 2008, accounting for 30% of the world's share. The second largest is the Philippines, third India and Japan was fourth. All are volcanic countries. Geothermal generation plants in the United States are located in the western states, such as California and Nevada, as well as Hawaii and Alaska. Thirty-three geothermal power plants in California produce 86% of its geothermal power domestically. In the Philippines, geothermal power generation accounts for 20% of total domestic power production. U.S. geothermal resources are estimated at 750,000 years of total primary energy supply for the entire nation, which demonstrates its abundant energy potential. It is a clean energy source, being independent of climate change with low CO^2 emissions. Retail price of electricity from geothermal power is $0.05/kilowatt, considerably cheaper than that of PV power at $0.25 and almost the same level as wind power at $0.04. The cost of geothermal power generation has

declined by 25% in the last 20 years due to technology innovation and an increase in demand for geothermal power.

The estimates of EBJ indicate that the most promising sector in the U.S. environmental market is renewable energy with an estimated growth of 66% between 2008 and 2012. This is followed by production technology for pollution prevention with 30% growth and waste treatment services with 23%. These sectors would lead to business opportunities of Japanese companies. On the other hand, air pollution control devices will decline by 9% and toxic material treatment services by 2%, and the growth speed is rather slow.

== Figure III-15 ==

Therefore, VC funds should mainly be injected in the promising renewable energy sector. In 2008, 73.3% of renewable energy funds were injected into the PV sector, followed by 21.8% into biofuels. On the other hand, the percentage of wind power declined drastically to 2.2% and geothermal and hydropower were less than 1%.

■ **Environmental market in Canada with growing wind power and biomass**

The environmental market value in Canada, according to BERR, was £54.2 billion (¥11 trillion) in FY2007/08, accounting for 1.8% of the world's share, which was ranked 13th after Mexico, followed by South Korea at 14th place.

"Environment Account and Statistics Division 2004" of the Canada's statistics department states that Canada's environmental market value was $18.4 billion (¥2 trillion) in 2004 and accounted for 2.5% of the world's market. There are about 8500 environment-related companies, of which 96% are composed of small- and medium enterprises with less than 100 employees. Much of the environmental market in Canada is composed of Ontario (share 43%), Quebec (19%), Alberta (15%) and British Columbia (BC, 13%), and these four provinces account for 90% of the entire market.

The following four sectors have large market sizes and competitive strengths:

(1) Water management (ultraviolet irradiation, membrane systems for water treatment, seawater desalination, etc.)
(2) Clean technology (fuel cells, small-scale hydropower generation, wind power, biomass and photovoltaic power generation)
(3) Geo-information system (measurement, monitoring, analysis device, marine acoustics)
(4) Environment management (software, system)

Besides these sectors, Canada exports mainly to the United States in sectors such as waste treatment, air pollution prevention and R&D/consultancy/education services.

As in the case of the United States, investment by VC in environmental business has been active in Canada. The investment had been stable at around CAD 100 million until 2005; it rapidly increased in 2006 and onwards and maintained its high level in 2007 and 2008 at nearly CAD 200 million. In particular, an investment in the new energy sector (renewable energy) is characteristically rapidly increasing. Biomass fuels are drawing much attention in Canada.

Canada holds the world's second-largest oil reserves (including oil sands), after Saudi Arabia, and has the fourth largest uranium reserves and is the largest producer. Canada had long supplied cheap electricity mainly from hydropower, but this might have, in return, hindered the development of renewable energy. Canada produces the second largest amount of hydroelectricity (2007), after China, but P power generation is at an initial stage compared to Germany, Japan or China. It is undeniable that geothermal, tidal and wave power generations also lack thrust.

Under such circumstances, wind power generation and biomass are rapidly gaining momentum. The wind power generation has grown quickly, mainly in Quebec and Ontario, and the market is expected to grow by 15 times from 2003 to 2010. Biomass is also developing steadily, supported by abundant raw materials and scrap wood.

■ **China: the second largest environmental market**

According to the BERR's report, China's environmental market value in FY2007/08 was £411.2 billion (¥82 trillion), accounting for 13.5% of the world's share, which places China as the second largest after the United States, while Japan's environmental market value was £191.3 billion (¥38 trillion) with a share of 6.3%, third after China. There is a huge gap between Japan and China, with the size of Japan's environmental market being less than half of China's.

The estimates by the National Development and Reform Commission (NDRC) of China indicate that the gross product of China's environmental industry will reach 880 billion yuan (¥12 trillion, ¥14 = 1 yuan). The details show that production from use of resources is 660 billion yuan, accounting for 75%. The production volume of environmental facilities is 120 billion yuan (13.6%) and the production volume of environmental services 100 billion yuan (11.4%). Priority investment areas include water utilization/management, air pollution control, solid waste treatment, ecological environment, nuclear waste treatment and establishment of environmental capacity.

■ **Can a Green New Deal boost the South Korean economy?**

The environmental market in South Korea, according to BERR, reached £49.8 billion (¥9.9 trillion) in 2007/08 with 1.6% of the world's share. The government of South Korea calculated the South Korean environmental market in 2007 to be 34.1117 trillion won (about ¥4 trillion).

By sector, the proportion of pollution management-related production was 16.8%, resource management-related production 20.2%, pollution management-related construction industry 15.6%, resource management-related distribution 25.7% and pollution management-related services 21.8%. The environmental market delivered a 16.9% year-to-year increase in 2007, driven by pollution management-related production (an increase of 28.8%) and pollution management-related construction (an increase of 37.0%).

Looking into which sectors have high growth rates on a lower sub-major classification basis, the growth was notable in the production of a wastewater management device (an increase of 55.5%), production of improvement and purification devices for soil, surface water and ground water (an increase of 146.5%), construction of air pollution control-related facilities (an increase of 57.9%), air pollution control services (an increase of 103.7%) and soil, surface water, underground water improvement and purification (an increase of 89.3%). These sectors are so-called traditional environmental activities.

== Table III-4 ==

The government of South Korea formulated an "Act Concerning the Development, Utilization and Promotion of New Energy and Renewable Energy" in 2004, and designated the year 2004 as the first year of expanding the renewable energy industries. Prompted by this act, the budget allocation to these sectors has increased. For instance, while the R&D investment in the renewable energy sector in 2004 was 90.5 billion won, it increased to 192.7 billion won in 2006. In FY2009, in addition to R&D investment in technology/human resources development, the budget was increased for the program to build one million green homes, for subsidy/loan for renewable energy and for Feed-in Tariff.

The One Million Green Homes project aims to build one million renewable energy-based homes by 2020 and provide part of the cost (50–60%) for free when installing PV, solar thermal, geothermal, or wind power generation facilities. A Feed-in Tariff is an incentive structure to encourage the adoption of renewable energy through a program in which the government subsidizes the difference in prices when the renewable energy price, such as the unit price of electricity from photovoltaic systems, exceeds the conventional electricity price.

The government of South Korea positions the Green New Deal as its center of economic stimulus package to address the financial crisis, and the overall environmental market is expected to grow in the future. Thus, business opportunities for Japanese companies are believed to be expanding from the traditional environmental sector to renewable energy and low carbon sectors.

■ **The EU's rapidly growing renewable energy-related markets**

In a report by the European Environmental Bureau released in September 2006 titled "Eco-industry, its size, employment, perspectives and barriers to growth in an enlarged EU," the size of the environmental market of the European Union 25 was €226.7 billion (¥30.6045 trillion), of which €144.9 billion was for pollution management activities (64% of the total) and €81.8 million for resource management activities (36% of the total). Major areas of pollution management activities are solid waste management/recycling, wastewater treatment, and air pollution control. Resource management is composed of water supply, recycled materials, renewable energy, eco-building technologies, etc.

The definition of the environmental market by the European Commission includes renewable energy and low carbon sectors, but its coverage seems narrower than that of the U.K.'s BERR. The weight of the traditional environmental sector, such as waste materials, wastewater, and water supply, is large, and these three areas account for 66% of the total. The EU's environmental market in 2004 was reported to have increased by 17% compared with 1999.

The data from 2006 is assumed to be the latest estimate of the environmental market by the European Commission and is listed in the report, the "Links between the environment, economy and jobs" released in November 2007. According to the report, the size of environmental market of EU27 in 2006 was €270 billion (¥36.45 trillion), employing 2.3 million people. When indirect elements were added, it was €750 billion (¥101.25 trillion), employing 4.6 million people

The EU has set out to increase the ratio of renewable energy in total energy consumption to 20% by 2020 from 8.5% of 2005. Renewable energy-related markets are expected to grow immensely, backed up by policies of the EU and its member countries. EU member countries have adopted a program in which electricity utilities buy electricity generated by renewable energy, such as wind or solar power, at a fixed price.

According to a report of the European Commission "PROGRESS," the electricity volume generated from renewable energy sources in EU27 in 2006 accounted for 13.7% of the total volume of electricity consumption. It is projected that the volume of electricity generated by renewable energy will double in 2015 and will grow by 2.4 times in 2020. Then, the proportion of renewable energy is expected to jump to 28% in 2015 and 34% in 2020.

In 2020, hydropower, solid biomass, wind power, biogas, and bio-waste will account for 95% of renewable energy power generation, which means hydro and wind power will make up the majority. Wind will account for 36.4% and hydro 32.4% (though remaining unchanged). Solid biomass will be 16.8% and solar light/solar thermal will be merely 2.9%. Tidal/wave power is just 1.2% and geo-thermal 0.7%. Nonetheless, as for the growth area of power generation by renewable energy, the average growth rate in the period between 2005 and 2020 for solar thermal is estimated to be 32.0%, offshore wind power 29.9%, tidal/wave

power 28.4%, solar light 23.0%, biogas 12.0% and solid biomass 10.8%.

Data on Europe's wind power generation indicate that cumulative wind power installed capacity at the end of 2008 increased by 14.8% over the previous year-end, accounting for 54% of the world. Germany stood at second place after the United States and is followed by Spain, China, India and Italy (seven European countries in the top 10). While the United States and China show rapid growth, Europe is also growing steadily. The overwhelming majority of wind power had been produced by land-based wind farms, but offshore is expected to grow in the future because offshore farms are less affected by geographical features and have less visual impact. In particular, the North Sea coast and the Atlantic coast in the U.K., Norway, Germany and Netherlands are suitable for offshore wind power generation due to powerful winds in those areas.

== Table III-6 ==
== Table III-7 ==

Photovoltaic (PV) production remains small, but its market is rapidly growing in Europe. Cumulative photovoltaic installed capacity of EU27 countries at the end of 2008 increased by 93.0% over the previous year-end. Germany has the largest share of cumulative capacity at 56.1%, followed by Spain 35.7%, Italy 3.3% and France 1.0%. Spain's share exceeded Germany's in 2008 alone due to a surge in demand, following a reduction in fixed price. Italy's share also grew by 2.6 times from the previous year.

== Table III-8 ==

Production of PV cells (PV device) is also rapidly expanding. Production of Germany's Q-Cells was in the first position in the 2008 world ranking for the second year in a row with an increase of 48% over the previous year. The second position went to the United States' First Solar, moving up from fifth place in the previous year with a 2.4 times increase. Suntec of China secured third place. Both Sharp and Kyocera slipped to fourth place and sixth place from second and fourth in the previous year, respectively.

The market of renewable energy devices and services expands according to the size of electricity volume in the renewable energy sector in Europe. In the case of wind power, the prospect of the market for wind power turbines is bright and the market for related equipment and parts will similarly expand. Also promising are hydropower turbines and dams and related facilities, biomass boilers and related devices, and the service market, such as education/technical consultancy.

As for the biofuel market in EU 27 countries, biofuels for transportation increased by 37% over the previous year. The share of biodiesel was 75%, bioethanol 15%, and other fuels (vegetable oil, etc.) 10%. The market of hybrid vehicles is smaller than that of the United States or Japan. In Western Europe, an estimated 70,000 hybrid vehicles have been sold (JETRO estimate), accounting for merely 0.5% of 13.55 million registered vehicles. This figure is much smaller than the 32,000 vehicles (2008) sold in the United States and 110,271 vehicles (FY2008) in Japan. However, the market is expected to grow in the future and the share of hybrid car sales should reach 5% (about 700,000 vehicles) of all vehicles sold in Europe by 2012.

■ Environmental market in Germany, achieving the double digit growth rate/year

Germany's Federal Ministry of the Environment, Nature Conservation and Nuclear Safety (BMU) developed the Environmental Industry Report, 2009 and independently calculated the size of the environmental market. The report estimated the size of Germany's environmental

market to be €69.5 billion (¥9.5 trillion). This is an increase by 25% from 2005 and about a 50% increase from the 2002 level.

Germany's environment market has expanded by more than 10% in 2006 and 2007 each. This is believed to be attributable to an increased awareness of the global warming and a boom in the renewable energy industry. Air pollution control devices, such as filters and catalysts, occupy a large portion in the German eco-business sector, which accounted for 29% in 2007. The share of measuring technology (26%) is also large.

This report attempted to collect data on the supply chain, although it is difficult to collect such data because the environmental industry encompasses a wide range of sectors compared to other traditional industries.

The size of Germany's eco-business estimated by BMU indicates that the proportion of traditional environmental activities, such as waste treatment, wastewater management, air pollution control and measuring technology, was large in 2007, accounting for 80%. In addition to this sector, the market includes an energy/environmental sector that comprises efficient energy use products, efficient energy conversion products and renewable energy source use products, and this sector accounts for 20%.

== Table III-9 ==

Thus, according to the BMU's estimates, the characteristic of the German market is that the combined share of the low carbon sector and renewable energy sector is only one quarter of the traditional environmental sector. The share of the renewable energy products was as low as 7%. This exhibits a significant contrast to the estimate by BERR for the global share of the renewable energy sector, which was 31%.

BERR of the United Kingdom estimates that Germany's market value of the environmental sector was ¥25 trillion in FY2007/08, accounting for 4.2% of the world. BERR adopts a broad definition for Germany's environmental industry, which includes alternative fuels, and covers a wide range of supply chains, such as parts and materials; consequently the estimated size was 2.7 times the BMU's estimate.

The report of BMU classified the German environmental market into six sectors and analyzed the share of the German market in the world market. In the energy efficiency sector, such as heat insulation materials and solar cooling systems, Germany accounted for 10% of the world market in 2005. In particular, the share of the insulation market was 10%, energy saving home appliances 15%, and measuring instruments 11%. Next, the German share of sustainable water management, comprising water supply and wastewater treatment, was about 5% in 2005. This sector is characterized by a high proportion of wastewater treatment (12%) and water management (40%).

The share of German corporations in the sustainable mobility sector, such as biodiesel and related devices, hybrid vehicles and advanced transportation system, was about 20% in 2005. The share of Germany in the renewable energy sector, electricity generation and storage, was approximately 30%, making it one of the top countries in the world. The share of biogas generation was high, with 65%, followed by PV power generation 41%, hydropower 33%, wind power 24% and solar thermal 17%.

The share of German companies in the market of waste management and recycling devices was 24% in 2005. German companies hold two-thirds of the share for automatic waste separation and management devices. Household waste recycling, use of renewable resources, nano-technology and weight-reducing technologies are the areas in which German companies are strongest in the sector of material efficiency.

■ U.K. market driven by wind power and photovoltaic power (PV) generation

The aforementioned report by BERR analyzes the details of the environmental industry in the United Kingdom. The U.K's environmental market was £107 billion in FY2007/08, accounting for 3.5% of the global market share. The U.K. has the sixth largest eco-market, after Germany.

Specifically, the traditional environmental sector accounts for 21%, renewable energy for 29% and low carbon sector for 50%. This is approximately the same composition as the global environmental market. In the traditional environmental sector, the proportions of water purification/wastewater treatment (7% of the total), recovery & recycling (6%) and waste management (5%) were high. In the renewable energy sector, the proportions of wind power generation (11%), geothermal power generation (9%), biomass power generation (5%) and solar photovoltaic power generation (4%) were high, but hydropower generation was merely 0.5%. In the low carbon sector, the shares of alternative fuels (17%), such as biofuels and nuclear, eco-building technologies (12%), alternative fuels for vehicles (12%) and carbon finance (5%) were high.

== Table III-10 ==

Industries such as water purification/wastewater treatment, geothermal generation, alternative fuels for vehicles and building technologies have a large supply chain contribution with more than 60% additional market value uplift due to the supply chain.

The sectors are ranked in order of percentage increase in the forecast growth rates between 2007/08 and 2014/15 to identify the sectors with high growth potential. Wind energy shows the highest forecast growth rate (up 79% in seven years). PV energy is in second place (up 66%), noise & vibration control third place (up 65%), carbon finance fourth (up 62%), wave & tidal fifth place (up 57%), geothermal sixth place (up 52%), biomass seventh place (up 50%), alternative fuels eighth place (up 46%), eco-building technologies ninth place (up 45%) and alternative fuels for vehicles tenth place (up 39%). These sectors (except noise & vibration control in the third place and wave & tidal in the fifth place) are all ranked high in the U.K.'s size of environmental market. Therefore, it is fair to say that in the U.K., the larger the size of the environmental market, the faster its growth.

== Figure III-16 ==

■ **Spanish environmental market nearly tripled in seven years**

According to BERR, the market value of Spain's environmental industry was £83.3 billion (¥16.6 trillion) in 2007/08, and its share was ranked eighth (2.7%) in the world market. Spain is positioned between France (seventh) and Italy (ninth). Meanwhile, the market value of France was £92.9 billion (¥18 trillion) and that of Italy was £82 billion (¥16 trillion), with the share of 3% and 2.7%, respectively.

Data from Spain's Ministry of Environment show that the market value of Spain's environmental business in 2007 was €19.1 billion (¥3 trillion) and it rapidly grew almost three-fold during the period between 2000 and 2007. The ratio to GDP reached 1.8% in 2007 from 1.1% of 2000. This growth was driven by the EU's subsidy program (€14 billion) and Spain's environmental measures, focusing on renewable energy.

Data from Spain's Ministry of Environment also show that 86% of Spain's environmental market is occupied by environmental pollution control and a rapidly growing renewable energy sector holds only 12% of the share. As for the fast growing industries, demand for water purification devices is increasing due to increased construction projects for desalination plants (quadrupled in seven years). Also, the growth of the recycling sector and renewable energy sector (quadrupled) is notable, led by wind and PV power generation.

== Table III-11 ==

(4) World's environmental measures and business opportunities for Japanese companies

■ **Expansion of U.S. green market and business opportunities for Japanese companies**

The financial crisis has drastically transformed the world's economic landscape, with individual countries taking various stimulus measures to overcome it. The main pillar of such economic measures is to expand government spending in the environment and energy sectors in order to boost the economy and create employment.

In the United States, a considerable amount of the budget has been allocated to the environment and energy sectors in the form of government spending and tax breaks under the American Recovery and Reinvestment Act of 2009. The Green New Deal is designed to combine economic growth and job creation, and at the same time, possibly activate environmental industries and become a new source of the United States' competitiveness. For Japan, it means the emergence of a new environmental market that provides business opportunities to expand the sales in this sector.

The understanding of how much money is allocated to the environment/energy sector among the government spending of $500 billion under the American Recovery and Reinvestment Act of 2009 varies depending on what the definition of the environment/energy sector covers. Any items directly related to environment and energy can be counted as they are. However, a decision of which investment/loan items for the development of infrastructure, such as electric cables, and improvements in transmission technologies to be counted as expenditures for environment depends on how far the definition is extended. Moreover, the amount of the environment/energy budget as a whole varies depending on the decision of whether public transportation items, such as expenditure concerning an urban high-speed rail project or support for public transportation corporations, should be added to environment-related spending on the basis that such projects could lead to a reduction in environmental load.

If the expenditure for renewable energy includes the infrastructure development of electric cables and technology development, the total amount reaches $25.2 billion. Specifically, the budget contains $11 billion for an electric Smart Grid (infrastructure to promote purchase of surplus household electricity), $6 billion for improvement of renewable energy/transmission line technologies, $4.5 billion for modernization of electric cables, $3.3 billion for electricity distribution systems for the Western Area Power Administration, and $0.4 billion for development of geothermal technology. Furthermore, as a tax break for corporations, a budget for tax reduction for renewable energy facilities reaches $13 billion by 2014.

Next, $14.3 billion were prepared to improve energy efficiency in federal and state government facilities and low-income housing, of which $4.5 billion was for energy efficiency in federal and state government facilities, $4.5 billion for improving energy efficiency of the General Services Administration, $5 billion for anti-weather protection systems for low-income housing, and $0.3 billion for improving energy efficiency of low-income housing. As a tax break for individual eco-housing, the government adopted measures to refund 30% (up to $1,500) of the cost of installing energy-efficient windows, doors and ventilators to households in 2009 and 2010, which would come to $4.3 billion.

Electric and hybrid vehicles are becoming increasingly popular and the government provides $3.3 billion for procurement of vehicles and development of a fuel cell system for vehicles. The government will spend $0.3 billion for procurement of electric vehicles for official cars, $0.3 billion for procurement of plug-in hybrid electric vehicles for official cars, $0.3 billion for procurement of energy-efficient vehicles by state governments, $0.4 billion for development electric vehicle technology, and $2 billion for development of advanced fuel

cell vehicle systems /parts.

The total government spending for three major sectors is $42.8 billion. The sum of tax reductions or refunds in these three sectors is $17.3 billion. When green-related spending other than these sectors, which have been covered by the American Recovery and Reinvestment Act of 2009, are included, the overall environment- and energy-related spending is believed to be close to 10% of the total budget. Looking into the overall environment-related tax break, there are no items applicable to other sectors except for these three sectors, so the total amount remains the same.

Business opportunities for Japanese companies in U.S. environmental markets can be found in the Green New Deal initiative. The first item that attracts our attention is the size of spending for infrastructure development and related equipment of electric cables. Eleven million dollars have been allocated to electric cables and Smart Grid-related equipment, which will provide Japanese companies with business opportunities to enter markets related to electrics cable and electric power controls.

The renewable energy market in the United States is expected to rapidly grow in the next ten years. Photovoltaic power generation encompasses a wide range of areas from fuel cell devices and related parts/materials to production machinery/parts or related technologies and services. Thus, opportunities are open not only to large corporations but also to small- and medium-enterprises. Business opportunities in wind power or the geothermal power generation industry are also available for Japanese companies that have strengths in turbines, power generation devices and related parts.

Japanese automakers have strengths in dealing with plug-in hybrid vehicle and electric vehicle markets. They are expected to expand the environment-friendly vehicle markets, for example, of hybrid vehicles in such as way as to contribute to federal and state policies. Needless to say, dissemination of hybrid or electric vehicles requires the improvement in fuel cell technologies and the development of infrastructure for electricity supply. Not only large corporations but also small- and medium enterprises play a crucial role in such peripheral industries, which are the areas in which Japanese companies are able to exert their competitiveness.

Furthermore, the American Recovery and Reinvestment Act of 2009 includes spending for government-affiliated eco-housing. This sector also forms a large market and Japanese companies are capable of providing intricate services. Although it is not easy for Japanese companies to earn a large share in the government procurement market, sales strategies are necessary to incorporate the growth of the market, taking advantage of the budgetary allocation to official plug-in hybrid vehicles and government-affiliated eco-housing.

■ Business opportunities found in Smart Grid, CCS, bioplastics in Canada

One of the characteristics of the environmental market in Canada is that provincial governments, such as those in Ontario or British Columbia, take more active measures than the federal government. The province of Ontario has a 43% share of Canada's environmental industries and is actively involved in reducing greenhouse gas emissions. Ontario set a target to reduce greenhouse gas levels to 6% below 1990 levels by 2014, by 15% below those levels 2020 and 80% below 1990 levels by 2050. This is by far higher than that of the reduction target of the federal government.

To that end, Ontario has announced that it will put an end to coal-fired power plants, which supply 19% of the electricity in the province, by 2014 and promote renewable energy, such as wind and PV power generation. In May 2009, the provincial government passed and enacted the Green Energy Act, which includes a Feed-in Tariff (FIT) system adopting the world's most effective rates (a long-term contract: 20 years). Due to the shift to an innovative policy in renewable energy, they ought to develop and expand infrastructure for electric

cables and supply facilities as soon as possible. It is therefore urgent to extend the electric network connections using information technology (IT), as well as Smart Grid technology, which controls the electric transmission systems, for effective energy supply. Thus, the business opportunities in this sector are steadily expanding.

== Figure III-17 ==

The province of Alberta is home to vast reserves of oil sands and the production is expanding; however, a considerable volume of greenhouse gas is emitted as a byproduct. What is now drawing attention to solve this issue is the Carbon Capture and Storage (CCS) technology. Alberta's government announced that it would invest CAD 3 billion in CCS technology and has a plan to achieve 70% of the targeted greenhouse emission reduction by 2050 through CCS. A large volume of wastewater containing heavy metals is generated in the process of bitumen extraction (can be upgraded to a synthetic crude oil). Eighty-five percent is reused during the process of wastewater treatment, but the rest is stored at exclusive ponds, since it cannot be dumped into the rivers. It has been reported that these storage ponds caused the deaths of wild birds, and the government made wastewater treatment mandatory. Bioethanol, known as an alternative fuel for vehicles, is normally produced from corn and wheat. However, Canada has developed a syngas production technology to produce bioethanol using urban wastes. Currently, the world's first commercial plant is being built in Edmonton, Alberta.

In Ontario, to replace oil-derived plastics, a technology is being developed to produce vegetable oil- or cornstarch-derived bioplastics, which are to be decomposed into water and CO^2 by microorganisms. Bioplastics are carbon neutral since they are derived from plants. There are a number of car manufacturers established in Ontario, with more than 900 auto-parts companies that are the end users of bioplastics. One vehicle contains 150kg of plastics. If 2 million vehicles are produced in the province, it would generate 300,000 tons of potential demand for bioplastics.

Thus, in Canada's environmental market, business opportunities can be found in the sectors of wind or PV power generation and Smart Grid, as well as CCS, wastewater treatment devices, biofuels, bioplastics and bio oils. It is also possible to pursue global markets of biofuels and bio oils, in partnership with Canadian corporations.

- **Expanding demand in Mexico, in addition to a production center for power generator for exports to the United States**

Environmental awareness of the general public in Mexico is not as high as that of developed countries. Nonetheless, the government is rather actively involved in reducing greenhouse gas emissions. The greenhouse gas emissions reduction plan, which is currently being prepared, is to set a target of reducing the emissions by 2% by 2020 on year 2000 base levels, 11.2% by 2030 and 50% by 2050.

Since no incentives were provided for renewable energy generation, Mexico's Federal Electricity Commission (CFE) purchased the electricity produced by photovoltaic systems at the same price as the electricity generated by natural gas. But the rules of operations of the Act on Alternative Energy Promotion and Financial Support for Conversions to New Energy will enter into effect before the end of 2009, offering incentives for renewable energy.

Also the Act on Sustainable Use of Energy was also enacted to promote energy conservation and a program has started in February 2009 to subsidize low-income households to replace energy-consuming refrigerators and air-conditioners with energy-saving ones. In local governments and private corporations, incandescent lamps are being replaced with fluorescent lamps. At the same time, led by large corporations, energy conservation efforts

are being made even in small factories; for example, lights have been changed, inverters have been introduced and transmitters have been renewed, and an increasing number of companies are considering energy conservation measures, such as reuse of exhaust heat.

Japanese companies in Mexico had previously focused on the production center of renewable energy generation devices destined to the U.S. market. The current function as an export center for the United States is expected to further increase its importance under U.S. President Obama's policy, highlighting renewable energy. There is also a possibility that exports to other Central and South American countries will expand. On the other hand, it is increasingly necessary to pay more attention to the growing Mexican market for PV and wind power devices and parts.

With respect to energy conservation, Japanese companies had supplied Mexican companies with energy conservation machinery for factories, exhaust heat reuse and vapor trapping devices (to save vapor). Demand for vapor saving/production devices has increased not only from the petroleum industry, but also from the food industry and chemical industry for sterilization and cleaning purposes. It seems necessary for Japanese companies to supply these devices to various types of industries, and to seek marketability in other energy conservation sectors, including energy-saving home appliances (inverter air-conditioner/refrigerator) and Light Emitting Diode (LED).

- **China: Business opportunities for environmental protection/development together with photovoltaic/wind power generation**

China is said to have invested 1.4 trillion yuan in the environmental sector since 2006, under its 11th Five-Year Plan, and this amount accounts for about 1.4% of the GDP of the same period. Specifically, about 650 billion yuan are invested in infrastructure development in urban areas (46% share), about 250 billion yuan in measures against factory pollution (18%), about 400 billion yuan (29%) in construction of environmental-friendly facilities, 60 billion yuan (4%) in conservation of ecology and 40 billion yuan (3%) in construction of production capacity.

In the traditional environmental sector, much demand is still expected to grow in China for environmental conservation and development, unlike developed countries. In the case of developed countries, demand in the traditional environmental sector shows signs of leveling off and business interests are shifting to renewable energy and low carbon sectors with potential growth capacity. Similarly, China is also paying attention to renewable energy and low carbon technologies, such as hybrid and electric vehicles, as part of an economic stimulus to address the financial crisis.

Incidentally, China needs to make further investment in traditional environmental sectors, such as air pollution control and waste treatment, due to rapid industrialization and urbanization. In China, it is necessary to promote water management business due particularly to a paucity of water resource per capita and a delay in development of treatment capacity of wastewater/polluted water in urban areas and industrial facilities.

Moreover, one of the characteristics of China is an advancement of coal-based air pollution. Therefore, electric industry must invest in desulfurization and dust removal. For example, demand for technology to capture and store CO^2 that is generated from coal-fired power plants is assumed to be large. It is clear that China lacks wastewater treatment capacity for the future, with a 7% annual rate of increase in industrial solid waste and 4% annual rate of increase in urban living waste.

The projection of the environmental conservation machinery industry in China predicts that gross products of the industry as a whole will reach 100 billion to 120 billion yuan by 2010, with an average annual growth rate of 13–17% in five years until 2010. Thus, business opportunities for Japanese companies seem promising in such areas as air pollution facilities,

Carbon Capture and Storage (CCS), water/wastewater treatment devices, environmental monitoring devices and noise/vibration control devices.

Looking into the amount of investment in renewable energy in 2007, investment in small-scale hydropower generation and wind power generation was highest, followed by investment in PV power generation and biomass. Renewable energy is a clean energy and will simultaneously solve the problems that China is facing: energy shortage and environmental issue.

Thus, the Chinese government has taken on a full-fledged promotion of the renewable energy sector in view of economic stimulus and employment creation. China's PV power installed capacity is lower than major countries in the world and an expansion of electric consumption of PV poses a challenge for the future. Nonetheless, the production of PV cells made remarkable progress, and currently, China is the world's largest producer. Chinese companies are now among the world's major PV cell manufacturers, and many are listed in stock exchanges in New York and London. In the past, these companies have broadened their horizon in the overseas markets, but are now shifting gears to the domestic market, affected by the financial crisis.

At the third International Photovoltaic Power Generation Conference & Exhibition held in Shanghai in May 2009, it was revealed that the government of China was trying to raise the 2020 target to at least five times higher than the original target, which is to achieve the generation capacity of 1.8 million kilowatt/year. China's PV cell industry has rapidly grown through market expansion in Europe, but its sales have plunged due to a decline in export price. In 2004, the percentage of sales to Germany of a major PV cell manufacture was 72% in 2004, to other European countries it was 17% and to other regions 3%, and that of domestic sales was merely 8%. By the aforementioned revision of the target, the Chinese government intends to expand domestic demand and further promote PV cell industry. If China achieves this target smoothly, its share will increase in the PV power generation installation market.

It is likely that China also has a plan to assist electric companies and manufacturers of related equipment in order to increase the wind power generation capacity eight-fold by 2020. The total investment value is projected to amount to ¥10 trillion. Since China has an advanced wind power generation technology and its cost is lower than that of PV power generation, wind power generation has a high potential for future development. An increasing number of wind power generation facilities are domestically produced, with the latest share achieving nearly 50%. If the 2020 target is achieved, China may well surpass the United States, the largest wind power generator in the world.

== Table III-12 ==

■ **Environmentally conscious markets in the EU and business opportunities**

The environmental policy of the European Union reflects an aim to improve the quality of life for EU citizens and a view that environmental measures lead to economic prosperity. Herein lies the basic principle that innovation brought about by environmental policy and creation of new markets strengthen the EU's competitiveness. Various environmental measures have been put forward in the EU and a number of action plans have been developed since 2003 for hydrogen fuel cell technology, water supply/sewage treatment, PV power generation technology, biofuel and wind power generation.

In terms of finance, there is a program called "eco-innovation" and nearly €200 million was made available to fund this program between 2008 and 2013. In 2008, 40 projects out of 134 applications were adopted, of which recycling projects accounted for about 60%, followed by green business (17%) and eco-building technologies (13%).

Seventy-four percent of participating companies are small and medium enterprises, and many are from Spain (28 companies), Italy (27) and Germany (26). The total amount of R&D subsidiary reaches about €50 billion during the period from 2007 and 2013.

The EU's public green procurement, which prioritizes the purchase of environmentally friendly products and services, has made progress as well. The total annual amount of public green procurement by the EU's public organizations has reached €1.5 trillion, accounting for 16% of the GDP. In July 2008, the European Commission (EC) proposed to raise the rate of public green procurement of the entire EU to 50% or higher by 2010.

The eco-label system (also adopted in Japan) is a voluntary system to affix a special label to products and services that have been verified as environmentally friendly. The system was introduced in the EU in 1992, and as of November 2008, 3,500 products and services of about 700 companies have obtained the label. The annual sales of these products and services amount to €1.5 billion, which is expected to raise the incentives of environmentally conscious consumers and upgrade the eco-market.

The EU intends to stimulate the potential of innovation and business through utilization of regulations. At the same time, the EU expects the synergy effects on the development of the eco-market by combining environmental measures. Since the establishment of the EU, various environmental measures have been taken. After the financial crisis, each EU member state has also been implementing environmental measures as part of an economic stimulus.

The member states have introduced subsidies for buying new cars in return for consumers scrapping their old ones (€1000–2500). Furthermore, subsidies for energy conservation in housing and other buildings and technology development of electric or fuel cell vehicles have also been adopted.

As in Japan, the EU mainly and intensively provides support for the renewable energy sector and promising industries such as electric vehicles and fuel cells. The weight of PV power generation is expected to grow in the future since its weight is still small in renewable energy output. It is certain that if technological innovation is achieved, not only the electrical energy sector but also related markets will drastically expand. Technological application can be used for eco-housing, in addition to devices such as cells for PV generation. In addition to houses and buildings, technology may also be applied to vehicles and electric appliances, and thus, related markets will be explored.

Let us now examine the case of the biomass market in the EU. A Belgium company supplies wood pellets that can be used to heat homes. Like the kerosene delivery service in Japan, the wood pellets are delivered to homes via trucks. Pellets are delivered through a hose from a supply truck to a storage installed at the building, just as oil is refilled through the oil tank.

Although the price of pellets fluctuates depending on the price of oil, the prices of pellets and oil are currently the same. The number of users is steadily increasing, motivated by the government subsidy. It cannot be denied that the dissemination and expansion of eco-business markets, such as use of pellets for heating, as well as PV power generation, require support and subsidy from the government. This means the government's role is clearly reflected in the market and therefore, the eco-market is the perfect sector for the government to implement economic measures to respond to financial crisis and develop industry in a mid- and long-term perspective.

== Table III-13 ==

■ **Germany' global expansion and business opportunities for Japanese companies**

One sector that has been drawing a great deal of attention in Germany in recent years is

renewable energy, represented by wind or PV power. The market expansion was triggered by a feed-in policy that required utilities to purchase energy from all renewable energy providers. In 2000, Germany enforced the Act on Granting Priority to Renewable Energy Sources (EEB) (hereinafter referred to as the "Renewable Energy Sources Act") which provides that the purchase can be changed at a price based on a fixed percentage of the retail price to a fixed price system. The act succeeded in reducing risks involved in investment and business. At the same time, the purchase price of electricity generated by PV power was drastically raised, setting up detailed price ranges by energy sources. The Renewable Energy Sources Act was revised in 2004 and 2009. While the price of electricity generated by PV power was slightly reduced, the price system was set to encourage renewal of old turbines and promoting the establishment of offshore wind farms. This was to create a new market that would replace the stagnant land-based wind power generation.

The Renewable Energy Export Initiative is a policy implemented in 2003 by the Federal Ministry of Economics and Technology and is designed to promote exports of technologies and devices related to renewable energy. In particular, it aims to help the small and medium enterprises enter foreign markets. Major projects include a program to promote overseas business negotiations by the German Chamber of Commerce, a business matching program between small and medium enterprises, provision of information by the Federal Bureau of Foreign Trade Information, holding of symposiums, a program to invite overseas corporations, support by the Ministry of Economics and Technology for participation in trade fairs, and support for projects in developing countries by projects of the German Organization for Technical Cooperation (GTZ) (renewable energy power generation in rural areas).

One company rose to become the world's best in PV power generation, backed by the support system of the government: the German company Q-cells. Since its establishment in 1999, it grew rapidly and became the largest manufacturer of solar cells, making it perhaps the most successful German corporation in recent years. It overtook Sharp for the top spot in 2007 and maintained its position in 2008 far ahead of the second position, First Solar of the United States. The production volume in 2008 reached 60 times that of 2002, when actual production started.

Q-Cells' sales in 2008 were €1.251 billion, up 46% over the previous year. The characteristics of Q-Cells are low-cost strategy and active overseas business activities. Initially the cost of the PV generation device was high but Q-Cells started with multi-crystal silicon, whose material cost is low but has excellent mass productivity, and made efforts to cut labor cost by setting up production sites in the former East Germany. With respect to overseas activities, Q-Cells focused on markets in Europe such as Spain and Italy, which adopted the feed-in policy, as did Germany. The company's next target is Asia (China and India) and the American continents. It launched construction of a factory in Malaysia in 2008 as an overseas production center, aiming to start shipment to Asian markets by the end of 2009.

The key point of Q-Cells' success is that the company was able to foresee the rapid expansion of the PV generation market due to the introduction of fixed price (feed-in tariff) arrangements by Germany and EU countries, and the company began to supply a large volume of low cost products. Regarding next-generation organic semiconductor devices, Q-Cells adopts a strategy to acquire excellent companies and to introduce technologies from other corporations.

Business opportunities for Japanese companies in the German market can also be found in the fast growing renewable energy sector. The cumulative installed capacity of solar PV in 2008 accounts of 56% of EU 27 countries and registered an increase of 39% over the previous year. Business opportunities are large particularly in the next-generation market. Opportunities are expanding not only in the cell maker market, but also in cell production

devices and material markets. PV generation devices have elements that are similar to semiconductor technologies and may provide market opportunities for semiconductor producers.

Furthermore, Germany is shifting its promotion policy from land-based wind generation to offshore wind generation and the revised Renewable Energy Sources Act raised the purchase price of electricity produced by offshore wind farms to 60% higher than that of land-based counterparts. Although offshore wind power generation devices are expected to grow drastically, competition with German companies is severe. Still, there are business opportunities for Japanese companies that excel in light and strong blade materials, windmill poles, power electronics parts, etc.

Additional promising areas are thermal insulation materials, which compete with German corporations, as well as energy-saving household electric appliances, measuring devices, biodiesel, and automatic waste material separation devices.

■ **Promising offshore wind power generation in the U.K. market**

Measures for eco-business in the United Kingdom are well developed. The British government created a new Department of Energy and Climate Change in October 2008, which integrated the climate change policies and energy policies, to take over the climate change portfolio from the Department for the Environment, Food and Rural Affairs and the energy brief from the Department for Business, Enterprise and Regulator Reform (BERR). The government also enacted the Climate Change Act which puts into statute the U.K.'s targets to reduce greenhouse gas emissions by at least 26% by 2020 and by 80% by 2050. Also in the renewable energy sector, the U.K. government adopted a feed-in tariff system and created the Environmental Transformation Fund (ETF) with an aim to promote development of low carbon technology and energy conservation technology.

Business opportunities can be made obtainable by prospecting the future market outlook with focus on the sectors and technologies provided for in the British laws and regulations. The U.K. has lowered the barriers against foreign capital and the business opportunities in eco-markets are wide open to Japanese companies. The U.K. is rather active about incorporating foreign investment, technologies and know-how and has welcomed participation by foreign capital. Although this tendency has somewhat abated due to the financial crisis, it can be addressed by promoting business in partnership with local companies.

The British government, as part of an economic stimulus package after the financial crisis, has reinforced its support for environmental business. In this respect, too, the entry of Japanese companies into the British eco-market would lead to business opportunities. At the local level, a Regional Development Agency (RDA) develops its unique environmental policies.

One promising specific area is offshore wind power generation. Market expansion of the renewable energy sector is definite, of which offshore wind power is at the top of the list. Wind power generation is ranked first in the forecast of the market expansion rate during the period between FY2007/08 and FY2014/15. Japanese companies have strengths in wind generation turbines and related parts.

PV power generation and carbon finance also have growth potential. As in the case of the United States, the Smart Grid market with electricity transmission control function will expand. When considering the strengths of Japan, energy-conservation technology (eco-appliances) and measuring devices seem also promising.

■ **Spain's wind/PV power generation are among the largest in the world**

Like the progress of the EU's environmental policies and dissemination/expansion of

international environmental standards, environmental spending is increasing every year. The Spanish government's spending on the environment in 2004 was 0.31% of the GDP and increased by 0.13 percentage point compared with five years earlier. The private sector spending was also increased by 0.09 point, at 0.15% of the GDP. As for the number of ISO Environmental Management System (ISO14001) acquisitions by Spain, 13,852 cases were recorded in 2007, an increase by 4.3 times the previous five years and ranked third after Japan and China.

Spain formulated the 2005-2010 Renewable Energy Plan, which raised the targets to 12% or higher of primary energy from primary energy sources by 2010 and to 29.4% of gross electricity consumption generation by renewable energies. The target of biofuels consumption was raised to 5.75% of total transportation fuels. In reality, the share of electricity generated by renewal energy of gross electricity products reached 20% in 2007, two years later, up by 2.2%. In particular, the progress in wind power, PV power, hydropower and biogas sectors was notable.

== Table III-14 ==

The driving force to achieving the plan is a feed-in tariff policy for renewable power energy. This system, adopted in 1998, requires utilities to buy electricity, and the guarantee period was extended to 25 years in 2004. This drastically affected the wind power sector, which grew by an annual average of 25.7% from 2002 to 2007, and the cumulative installed capacity as of the end of 2008 brought the country to third place after the United States and Germany. In the field of PV power generation, the purchase price of electricity for a large-scale plant was doubled due to the policy revision in 2007, and the world's top plants were built one after another.

In September 2008, the government announced the reduction of the purchase price, out of fear of an overheating boom. This in return caused a rush-in demand, spurring the plant construction. New installation of PV generation in Spain in 2008 was ranked first in the world and the cumulative installed capacity was ranked second, after Germany.

For PV generation, the purchase price was reduced by 27% and the total volume control for annual new construction was adopted. Since there are large plants in Spain, two-thirds of new construction have been allocated to a integrated roof-and-building system to be installed in houses and offices. For Spain, with its abundant sunlight, the PV generation industry leads to effective use of resources. For Japanese companies, expansion of the wind and PV power sector would offer big business opportunities. Some major Japanese corporations have already been involved in the development of wind/PV power plants.

Facing a chronic shortage of water, dissemination of water treatment devices is an urgent issue in Spain. Spain's government is resolved to double the supply capacity of desalination plants by 2011, and plans to double the reuse of water, too. Due partly to such active promotion measures by the government, technologies from Japanese companies have already been introduced, gradually entering the market.

The government introduced mandatory blending of biofuels to be mixed with gasoline for transport, which established that 3.4% of gasoline should come from biofuels in 2009 and 5.8% in 2010. Thus, there are more business opportunities in this sector. The government decided it would support the development of the next-generation electric/hybrid vehicles. This project is to disseminate 2000 electric vehicles in urban areas by 2010 and develop electricity supply stand networks.

- **The Middle East is expanding water treatment, wind/PV/solar thermal power generation**

Public awareness of environmental issues and effective use of resources is rather weak in developing countries, including in the Middle East. This means that there are no strong incentives to buy hybrid/electric vehicles and energy-saving appliances, such as inverter air conditioners, compared with developed countries.

With regard to the reduction of greenhouse gas emissions, Turkey's signing of the Kyoto Protocol, which obliges signatory countries to reduce their greenhouse emissions by 5% by 2010, does not require any responsibilities to achieve this goal. Nonetheless, the government of Turkey is steadily developing environment-related laws. Turkey has already signed 41 international agreements and 30 protocols, including the Kyoto Protocol. The government has chosen environmental industry as one of the tools to improve the competitiveness of Turkish industry to fulfill EU standards and aims to become a hub in Europe, the Middle East and the Commonwealth of Independent States (CIS).

The situation in the United Arab Emirates (UAE) is similar. Since the UAE does not have environmental clusters within the country, it seeks to create a general sense of business opportunities by investing in environmental markets and incorporating foreign environment-related companies.

As part of such efforts, the Abu Dhabi government announced the Masdar Initiative in 2006, which is a future energy initiative to build the world's center for renewable energy and energy conserving technologies in the UAE. Under this initiative, the UAE is building zero CO^2 emission city "Masdar", implementing CO^2 reduction projects, and investing in environment-related companies. A PV power plant was constructed and began operations in May 2009. A pilot project for wind power generation has also been launched. Furthermore, the UAE successfully won the bid to host the headquarters of the International Renewable Energy Agency (IRENA), which was founded in January 2009 and in which 75 countries participated.

These approaches of Middle Eastern countries to the environmental market are largely ascribed to domestic issues, such as increasing population and advancing urbanization, in addition to the motivation of developing environmental industries. In other words, it is increasingly essential to take measures to rapidly increase energy or electricity demand, waste treatment, such as household garbage, and the old and new issue of water supply/management. Middle Eastern countries are oil-producing countries and are supposed to be able to supply low cost electricity; however, they must expand the supply of electricity generated by wind, PV or solar thermal power due to depletion of resources. Moreover, the Middle East is endowed with intense and abundant sunshine, though water resources are limited. In short, the Middle East has plenty of photovoltaic resources and solar thermal resources.

Therefore, demand for waste treatment, wastewater treatment/reuse, water management, recycling, photovoltaic and solar thermal power generation, all of which come with the urban development programs, will lead to business opportunities in the UAE and Saudi Arabia. Capture-and-storage technologies for CO^2 emitted from power plants, oil refineries, and factories also have good commercial potential. The Middle East depends on other countries for these technologies and the environmental business in this region is attractive for foreign companies. The UAE and Saudi Arabia have high expectations for Japanese technologies and products, so the presence is not low but competition with the United States and Europe is getting fierce. Competition with South Korea and China is also intensifying. In one case, a Chinese company managed to win a bid for PV panel installation due to its lower bid price.

Turkey is not blessed with rich oil resources, despite its Middle East location, and therefore, it needs to foster/develop environment-related industries as much as possible. Current promising sectors are recycling, soil/water purification devices, water treatment devices, air pollution control devices, waste treatment, and renewable energy. Turkey's

exports recorded an annual average growth rate of 30% between 2002 and 2007, accounting for $2.6 billion in 2007. The details indicate that the percentage of emission systems for vehicles (prevention of noise/vibration) was high at 52%. The shares of air pollution control devices, waste treatment devices and energy conservation products were also high.

Turkey is a country rich in renewable energy resources. Photovoltaic (PV), wind, biofuels, hydro, and geothermal resources are available. PV, wind and biodiesels are attracting particular attention. Biodiesels are exported to the Netherlands, Romania, Saudi Arabia, the UAE, Bulgaria and Iran. The government is considering revision of a fixed price feed-in tariff system for renewable energy. However, the business sector is calling for further incentives because renewable energy business takes more time to turn profitable. When these incentives work more correctly, business opportunities in the renewable sector in Turkey will increase even more.

Aiming for the development of environmental business and the service market in Asia, JETRO is determined to help Japanese companies grasp business opportunities by strengthening its activities, such as information provision, support for various fairs/exhibitions, business matching events, while seeking cooperation with the Ministry of Economy, Trade and Industry (METI) and the Japanese Business Alliance for Smart Energy Worldwide (JASE-World). (See Column III-1 for JETRO's support programs.)

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Column III-1 JETRO: Projects of Supporting Environment/Service Industries

JETRO implements a number of projects to help the global expansion of Japan's environmental industries and service industries. The projects consist of four pillars: "business matching," "development assistance," "study/research and information/communication," and "trade/investment consulting."

JETRO hosts business matching meetings between Japanese and overseas companies with exhibitions and trade shows (see the Figure below) to create business opportunities for environment-related products. In the service sector, export support programs for video contents are in place. In the development assistance program, JETRO dispatches experts and promotes the transfer of environmental protection/energy-conserving technologies and know-how to developing countries. For "study/ research and information/communication," JETRO performs analyses on environmental business and service-related consumption, and communicates information and messages through publications, various mail magazines and seminars, using JETRO's global and national networks. Please refer to the "Support & Service" section on JETRO's website (URL:http://www.jetro.go.jp/support_services/) for details and contact the responsible department.

Trade and investment consultation centers in Tokyo and Osaka, trade information centers across Japan, and overseas offices serve as points of contact for inquiries concerning trade and investment, including environmental/service sectors.

== Column Table III-1 ==
== Column Figure III-1 ==

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2. Beyond the Financial Crisis: Strategies of Japanese Companies on Service Markets in Asian Emerging Economies

Japan's service sector has been in chronic deficit in balance of payments and is therefore said to be weak in competitiveness. Therefore, we have a critical task to improve the productivity of the service sector. Global activities of Japan's service industry are not only lagging behind the manufacturing sector, but also the service sectors of other developed countries. According to the data on FY2008 (December 2008 – March 2009) prepared by JETRO based on the consolidated financial statements of listed companies, the overseas sales ratio (sales outside Japan/net sales; excluding exports from Japan) for the non-manufacturing industry was 18.7%, whereas that for the manufacturing industry was 39.7%. The non-manufacturing industry makes up 50.9% of Japan's direct investment abroad, much smaller in size compared with 74.8% of the United States (excluding holding companies). On the other hand, service-related companies with strong competitiveness have sought business opportunities particularly in Asian emerging economies and have been successful there. This section examines the prospect of business expansion of Japan's service industry in emerging economies, mainly in Asia.

(1) Global consumer market with growing share of service expenditure

■ Expansion of the share of emerging countries in world consumption

The world's consumption expenditures in 2008 were $35.4726 trillion (nominal), an increase of 9.4% over the previous year, showing a steady annual growth supported by the strong first half performance. The growth of emerging economies is particularly notable. The Asia-Pacific region (excluding Japan) registered a year-on-year increase of 14.9%, Eastern Europe 26.7%, and Central and South America 13.4%. BRICs recorded a growth of 23.9% and JFIC16 15.5%[2]. The consumption trend in China is drawing much attention; it increased by 25.2% in 2008 from 2007 and served as a driving force behind Asia's consumption growth. Vietnam also showed a strong growth with 27.5%. Developed countries had relatively low growth rates, with 3.6% for the United States and 7.6% for Europe. Since the impacts of the financial crisis will appear in 2009, a decline in the world's consumption expenditures is inevitable.

The world's consumption expenditures increased by 55% during the five years from 2003 to 2008. The Asia-Pacific regions recoded an increase of 91%, while Europe increased by 56%. Although the United States remained low at 31%, Eastern Europe and Central and South America increase rapidly with 190% and 105%, respectively. The growth rates for BRICs and JFIC16 were 152% and 95%, respectively.

The share of emerging economies in the world's consumption expenditures is steadily expanding from 22.9% in 2003 to 30.9% in 2008. The share of JFIC16 in 2003 was 6.1% but grew to 8.0% in 2008, tying with Japan, and the share of Central and South America was 7.5%, rapidly catching up with Japan. There are many sectors in emerging economies with high expansion potential, such as the dissemination rate of consumer durables, and therefore, it is certain that the importance of business in this region will be increased even more in the days of global economic recession caused by the financial crisis.

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[2] JFIC 16: JETRO-FILE Increasing-Interest Countries. Based on access data by country of the JETRO File FY2007, JETRO compiled a list of the following 16 newly emerging countries for which interest of Japanese companies is increasing: Vietnam, Thailand, Turkey, United Arab Emirates, Pakistan, Mexico, Republic of South Africa, Venezuela, Saudi Arabia, Peru, Poland, Argentina, Romania, Hungary, Nigeria and Egypt. For details, see the 2008 JETRO White Paper on International Trade and Foreign Direct Investment.

== Table III-15 ==

■ **Consumer markets in emerging economies driven by the service sector**

With respect to the ratio of consumption expenditures to GDP in developed countries, it exceeds 70% for the United States, and in general, it is nearly 60%, like Japan and Germany. The ratio is rather low in emerging economies although Central and South America reached 60%. The ratio was less than 40% for China, 51% for the Asia-Pacific region and 47% for the Middle East/Africa. This leads to a conclusion that the ratio of consumption to GDP in emerging economies is lower than developed countries. This is partly attributed to the fact that as the economy becomes more service- and soft-oriented, as in the case of developed countries, the larger service expenditure becomes, resulting in an increase in the consumption expenditures as a whole.

Consumption is roughly divided into expenditure on goods and expenditure on services. The changes in expenditures on goods and expenditure on services of the world during the period from 2001 to 2008 (Figure III-18) show that the growth rate of the expenditure on services exceeded that of the expenditure on goods in both developed countries, such as Japan, the United States, and Germany, and emerging countries, such as BRICs and ASEAN 5.

== Figure III-18 ==

This might be ascribed to the expansion in a service-oriented economy not only in developed countries but also in developing countries. Furthermore, it might also be attributable to the decline in the price of goods due to the technology innovation and the advancement of the optimal production system in the manufacturing sector. For instance, while the price of goods in Japan in 2008 declined by 3.7% compared to that of 1994, the service price increased by 6%. As is widely known, the decline in price of household appliances in Japan is remarkable. The price of refrigerators went down by 82% during this period and washing machines by 76%. This was due to successful transfer of production centers to China and other countries. It must be also noted that the prices of semiconductor chips and liquid crystal panels are declining dramatically in recent years.

During 2001 and 2008, the increaes of expenditures on both goods and services was higher in BRICs and ASEAN5 than in Japan/the United States/Germany (see Figure III-18). Whereas the rate of increase in expenditures on goods and services in BRICs and ASEAN was around 130%–200% in seven years, the rate of increase did not reach 100% in Japan, the United States or Germany. Among Japan, the United States, and Germany, the rate of increase for Japan was markedly low, with less than 30% in both goods and services expenditures. This suggests that Japan's global sales strategies in emerging markets must consider the service sector, in addition to the goods sector.

In developed countries such as Japan, the United States and Germany, the ratio of expenditures on services to the total consumption expenditures was more than 50% in 2008 (see Figure III-19). This reflects the fact that the proportion of expenditures on services in consumption is high, affected by the advancement of the service-oriented economy in developed countries. On the other hand, the ratio of expenditures on services in consumption expenditures in BRICS and ASEAN 5 was around 40%, signaling further growth potential of service expenditures in the future, compared with developed countries. Thus, global sale strategies of Japanese companies must be drawn to Asian service markets, when considering the high growth rate of service industry and its large growth potential in Asia.

== Figure III-19 ==

In fact, according to the result of a questionnaire on JETRO members, eight countries among the top 10 priority countries for service trade of Japanese companies in the coming three years were Asian countries/regions, such as Thailand and Vietnam, lead by China (first). Only two other non-Asian countries made it the top 10: the United States (second) and Russia (10th) (see Figure III-26).

The sectors with higher growth rates than the average of the total service expenditures in China's expenditures by services during the period from 2001 to 2008 were transportation service, communications service, medical service and postal service (see Figure III-20). The growth rates of financial service, social security service and health and beauty service were lower than the average. It is believed that the expenditures for transportation, medicine and communications increase as income rises. In this sense, distribution, such as retail trade, can be expected to grow in the future. One of the reasons why the growth rate of China's financial service is lower than the average may be that most bank loans are for corporations and the proportion of personal loans is small, besides the fact that many financial products have yet to be launched in the country.

== Figure III-20 ==

In the past several years, Japanese financial institutions have expanded their businesses in China. This seems to be attributed to the fact that China allowed establishment of 100% foreign-capital banks to develop business in China in December 2006. In response, Mizuho Corporate Bank and the Bank of Tokyo Mitsubishi UFJ set up a local subsidiary in 2007 and Sumitomo Mitsui Banking Corporation did so in 2009. Although the growth rate of financial service expenditures in China had been lower than average, these moves can be seen to be based on future growth prospects.

India's service expenditures exhibit a opposite tendency to those of China. The growth rates of expenditures on financial services, social security services and postal services, which are lower than the average in China, are higher than the average in India, while those on transportation services, medical service and entertainment and cultural services are lower than the average. It is believed that the increase in financial service expenditures in India can be greatly attributed to business expansion of financial institutions of the U.S and Europe in recent years as part of their global customer service strategies (call center, etc.). The liberalization of foreign capital inflows into the life insurance sector in 2000 can be considered one of the contributing factors, too. In the meantime, the government does not allow, in principle, foreign retailers selling multiple brands to set up shops in the country. Only single-brand retailers, such as Nike or cash-and-carry type wholesalers , can enter the Indian retail market. t

== Figure III-21 ==

Data show that service expenditures of ASEAN, unlike those of China or India, have been on the rise as a whole. The growth rates exceed the average in every sector of finance, education, communications, post, and transportation. Even in sectors with lower than the average growth, such as entertainment and culture, health and beauty and insurance services, the growth rates exceed 100%. This may be ascribed to the fact that the average income level in ASEAN countries is higher than that of China and India, giving ASEAN countries more room to spend on services at large. Therefore, it can be concluded that Japanese companies are able to develop their service trade in ASEAN countries in broader areas compared to China and India.

== Figure III-22 ==

(2) Global expansion of service market with high expectations for further growth

■ **Service companies, which have yet to go global, are keen to enter the global market**

A "Questionnaire Survey on Global Consumption Market" (concurrently conducted with the questionnaire on "Environmental Business" mentioned in Chapter III-1) was performed on JETRO member companies to ask about the current status of overseas business and future prospects of Japanese companies (effective responses were received from 813 companies).

The percentage of companies that responded that "they currently sell overseas and there are plans/potential to expand the business" was 69.9% of all respondents. While 81.5% of manufacturing companies had selected this response, 53.6% of service companies did so, showing a higher percentage of manufacturing companies is in this category. Therefore, among companies currently engaged in overseas sales, manufacturing companies have a higher motivation for future global expansion than service companies do.

The percentage of companies that responded that "there are plans/potential for future sales, although [they are] not currently engaged in it" was 12.9% of all respondents. While 11.3% of manufacturing companies selected this response, 14.9% of service companies did so. This indicates that, among companies that are not engaged in overseas sales, the services sector has higher motivation for future global sales (see Figure III-23).

== Figure III-23 ==

This is believed to be attributed to growing expectations for overseas markets affected by sluggish domestic demand.

Among the service areas that have not been engaged in overseas sales, motivation for overseas expansion is high in "information & telecommunications (contents production)," "professional service (legal services, accounting, and consultancy)," "construction," "retail," and "transportation," in descending order. In view of the economic recovery following the financial crisis, the percentage of companies in the manufacturing sector seeking access to overseas markets remains high, and Japan's service sector shows signs of increasing motivation for overseas expansion, led by the companies that have not yet been engaged in overseas business.

Some specialty retailers, such as clothing, jewelry, household products and miscellaneous goods, responded that they are considering global business expansion. Some companies in the transportation sector responded that they are considering global expansion in food transportation targeting mainly the middle-income market. This indicates a growth of Japanese food business in Asia.

Among 673 companies that responded that "they are engaged in or have plans for overseas expansion," the highest proportion of them chose the response "high growth potential of emerging markets" as the reason for their active business development: 56.6% (381 companies). This is followed by "matured or saturated domestic market": 54.2% (365). This gives the impression that traditional domestic demand businesses are seeking new growth opportunities in emerging markets.

== Figure III-24 ==

■ **Sales Priorities placed on emerging economies in Asia, including service sector**

When asked "On which country will your company place the highest business priority in the next three years?" 64.9% of companies cited China, followed by the United States at

42.1%. Seven Asian countries/regions are listed in the top 10, and emerging countries, such as Thailand, India and Vietnam, entered the top 10. This response corresponds exactly with the global sales strategies of Japanese companies and shows on which countries they are focused. China has been identified as the top priority country, followed by the United States, in a number of business areas. In terms of retail in the service sector, it is clear that many Japanese companies place a great deal of weight on Asia, led by China, followed by other Asian countries/regions such as Thailand, Taiwan and Vietnam.

== Figure III-25 ==

High priority countries and regions for Japanese companies in the next three years in terms of service sales are listed in Figure III-26. Focusing on the services sector in Asia, the high priority countries and regions in the next three years are China, Thailand, Taiwan, Hong Kong, and Vietnam, in descending order. India and South Korea are ranked fourth and sixth in the overall ranking for business priority. However, focusing on the service sector, South Korea is in seventh spot after Vietnam and Singapore. India came in eighth.

== Figure III-26 ==

Over 90% of companies identify China as the top priority country in the area of information and communications (entertainment and culture-related contents and software), and motivation is high in the areas of finance/insurance and real estate/leasing. For entertainment contents whose growth has leveled off in the domestic market, Chinese markets for popular Japanese animation and music cannot be overlooked along with the U.S. markets.

China has the largest market in the world in terms of the number of mobile phone subscribers and individual accessing internet services. Thus, a growing number of companies are seeking business opportunities in such areas as mobile phone games, entertainment contents, and website production. Not only entertainment-related companies, but also culture-related companies, such as e-learning, broadcasting production and publishing, are considering business expansion in China.

Financial institutions show much interest in Indian markets, in view of the life insurance market with its low subscription rate and rising financial demand. There are Japanese financial institutions seeking to enter the loan market, which caters to the middle class in purchasing expensive items, such as automobiles and household appliances. Russia's consumption, including expensive products, plummeted due to the financial crisis. Still, Russia is placed eighth on the sales priority list by country/region, after Vietnam; and among service entities, financial and insurance companies are highly interested in Russia.

== Figure III-27 ==

Looking into the interest of service sectors in Asia by country/region, information and communications sectors are interested in South Korea, Taiwan and Thailand, reflecting the popularity of Japanese animation and music in these countries. Construction-related companies show interest in Vietnam, Indonesia, the Philippines and Malaysia, in view of demand for ODA-related infrastructure and urban development, while financial/insurance companies have a clear business motivation in Thailand.

== Figure III-28 ==

When comparing the current sales destination and the business priority in the next three years, China's position in three years' time goes slightly down in the manufacturing sector, but many service companies place more priority on China in three years' time than now. This tendency is particularly prominent in construction, information and communications, and professional services. The percentage of companies placing more priority in three years' time is also high for Vietnam, with high expectations in such businesses as retail, information and communications and professional services.

(3) Entering emerging markets with low-cost and value-added services

In order to cut into the markets in Asian emerging economies, Japanese companies should first focus on rapidly growing service areas in each country: for example, providing contents to fast growing online services, learning services, restaurants, etc. in China, business service outsourcing and life insurance, etc., in India.

Secondly, although not prominent in Europe or the United States, Japanese companies can make active approaches to service markets in emerging countries with the provision of high quality services.

The percentage of service companies engaged in overseas sales is smaller than the manufacturing industry in Japan and it has been pointed out that the service industry lacks competitiveness in global market. It has also been pointed out that Japan's unique, personalized, warm and high quality services are costly and would not be advantage to business performance abroad. However, these unique, value-added and high-quality services are everywhere in Japan. Some examples are the polite customer service at luxury department stores, delicate Japanese-style service at restaurants, sales strategy that combines a product and abundant product knowledge at consumer electronics retailers , the hospitable customer relations and safety and security service offered by taxi drivers, and very attentive service offered by automobile dealers.

These high-quality services have been accepted by the upper middle class abroad but have been too expensive for the middle class. Moreover, for cultural reasons these services may be viewed as excessive.

However, some Japanese companies have recently been accelerating their business expansion in overseas markets, successfully exploring new markets mainly in Asia and utilizing Japanese-style services as their strategic initiatives. These cases can be seen in general supermarkets, cram schools, education service for small children, Japanese restaurant chains for teishoku (set menu), and door-to-door sales of Yakult, etc.

In recent years, Japanese retailers have accelerated their business expansion in China. The expansion is quite robust not only in urban areas, such as Beijing or Shanghai, but also in in-land areas. Ito-Yokado opened its first store in Chongqing (inland China) in 1997. As of the beginning of 2009, there is a plan to open a fifth store in Chongqing. The success in Chongqing suggests that Japanese-style services have been welcomed. This success is believed to be made possible by orderly product display, high-quality customer service by sales clerks and provision of safe and secure products.

== Table III-16 ==

As described above, people in Asia may have a propensity to accept high-quality Japanese-style service. In other words, in Asia, people have accepted services that are different from low-cost mass sales or manual operations provided by western companies.

However, if one intends to expand such high-quality services in Asian emerging economies, the high-cost structure becomes an obstacle. Even if the service is accepted by wealthy people, the price is too high for middle-class groups, which constitute the

overwhelming volume of the markets.

To break this obstacle, there is no other way but to reduce prices while maintaining Japanese-style, value-added and high-quality services as much as possible. To do so, it is essential to localize the business, use local people, provide education and training, and establish a system to provide the same quality of service as in Japan at a low cost. It is thus necessary to promote localization to make low-cost services available while resorting to various kinds of operation strategies, such as forming partnerships with local companies, M&As, etc.

With respect to sales by Japanese companies in emerging economies, a "double sided strategy" is in progress, in which low-priced general use products are sold to the middle class in addition to value-added high-end products. The JETRO 2007 White Paper on International Trade and Foreign Direct Investment proposed the double side strategy for sales in goods in emerging economies. Having experienced the financial crisis and as a low-price orientation become stronger, it may be necessary to apply this global business strategy for sales in goods to the service sector as well. It is desirable to adopt this strategy particularly for service saels in Asia.

Provision of value-added/high-quality, but low cost service to middle-class Asia is feasible in the following wide range of areas: educational services, consumer electronic retailer, retail (supermarkets and convenience stores), restaurants, contents (animation, Manga, game software, movies, and music) Software, construction service (public works, installation of exhibitions, store interior), security, transportation (distribution services, movers, parcel delivery service, and taxis), finance (retail banking, auto loans, and life insurance), hair/beauty, bridal services, personnel placement services, and health/welfare services.

== Table III-17 ==

There may be many challenges to overcome to expand the service business in Asia, such as human resources development, understanding of Japanese-style services, and local regulations on business expansion and activities. However, compared to the penetration rate of Japanese goods in Asia, service is a sector for the future. Now is the time to establish a new business model for service providers that fully reflects the characteristics of the Japanese-style service.

(4) Moves and characteristics of service markets of major emerging economies

■ China pursuing economic revitalization through investment in services

China's growing economy, a growth fueled by export-oriented foreign investment, is accelerating its speed of expansion led by a domestic-based service industry. Of the $92.4 billion of inward direct investment (based on actual investment) in 2008, the share of the non-manufacturing sector (44%) was catching up with that of the manufacturing sector (54%). In particular, investment in the service sector is increasing in coastal areas.

In 2003, the government of China shifted its policy to an domestic dependent growth model (domestic demand and consumption) by transforming the industrial policies. In 2006, the government promoted the investment in domestic market oriented industries, such as high-tech and service industries, to depart from the traditional labor-intensive models. The government designated call centers, IT services and distribution as specific promotional businesses in 2007, which attracted investment mainly from European and U.S. companies. In April 2008, the State Council of China laid out an economic policy after the second quarter to actively expand service-related consumption, such as culture, travel and information. The motivation of new enrty by foreign service related companies have been on the rise since domestic businesses have been strong, despite the decline in exports due to the global

recession. According to the aforementioned questionnaire conducted by JETRO, all the service companies (except for transportation) listed China as the top priority country in the next three years in all service areas.

One of the recent characteristics of the service sector in China is the growth of the online shopping market. According to i-Research, a major IT consulting company, sales from online shopping have grown by 2.3 times over the previous year, reaching 1.2% of total retail sales in Chinese market. The market size is forecasted to increase six times from 2008 to 2012, signaling a rapid increase in the entry of suppliers. The online shopping that allows cost reduction and the provision of reasonably priced products is commonly expanding in the consumption market throughout the world after the financial crisis. China is not an exception, and the growth rate is outstanding; thus, online shopping is a consumption market that is drawing much attention.

■ **India boasting a huge potential service market**

India, with a population of 1.15 billion people as of 2008, is expected to reach a population of more than 1.53 billion in 2035, surpassing the population of China, currently the most populous country in the world (United Nations). Thus, India, together with China, is expected to offer huge market opportunities.

The weight of the service sector in the Indian economy is large and the GDP composition by sector for services is 65%. In particular, external trade, hotels and transportation/communications account for 28.6%, and finance/insurance, real estate and business services for 14.8%. It has been pointed out that India has high entry barriers; nonetheless, a number of foreign companies are rushing into the huge market. As for activities of Japanese companies, Kumon has entered the education market to offer mathematics and English instructions for children and students in 2007 in the form of franchising. In 2009, Nagase Brothers Inc., which operates Toshin High School, announced that it will establish a base center in Singapore to expand the business in the form of licensing to local corporations in India and China. In 2009, the Dai-ichi Mutual Life Insurance Company established a joint venture with the local banks and started sales of insurance products at bank counters.

The JETRO questionnaire shows that trading firms and wholesalers companies list India as one of the priority countries in the next three years, after China and the United States. Finance and insurance sector lists India as one of the priority countries, after China and Russia.

■ **Thai and Indonesian service markets expanding in the middle class**

As BRICs countries, Thailand is drawing much attention in terms of expanding its middle class. The 2008 GDP per capita was more than $4,000 in Thailand and $9,000 in Bangkok. The middle class has grown in urban areas generating prospective markets for foods, restaurants and IT-related services, in addition to manufactured goods.

Japanese food is quite popular in Thailand, and, as in the 1980's and around the year 2000, the Japanese food boom has returned to Thailand, hailed as healthy foods. As of April 2009, there are about 1,020 Japanese restaurants in Thailand (about 730 in Bangkok alone), with a wide variety ranging from upscal;e restaurants, such as fine Kappo cuisine, to low-key restaurants such as teishoku (set menu) chains, ramen, and curry restaurants. The majority of customers are upper and middle class Thai people. Thais have a custom of eating out at food stands, and Japanese fast food seems to fit right in. Along with heightened health awareness, Yakult has been penetrated in Thai society through two sales channels: door-to-door sales by "Yakult Ladies" and store sales at supermarkets.

Besides food and beverages, after-school educational programs, such as Kumon and

Yamaha Music class, have been expanding businesses, targeting Thai consumers, along with an increasing interest in Japan in Thailand.

Medical tours for foreigners can also be a business with growth potential. Thailand earned an income equivalent to ¥182.2 billion in 2008 from medical tours from abroad, about ¥52.1 billion of which came from medical expenses at hospitals, with the remaining ¥130.1 billion coming from tourism, such as shopping and trips by family members of patients. Affected by the economic slowdown, U.S. companies are having difficulty paying medical costs for their employees within the United States, where medical costs tend to be expensive, and U.S. insurance companies are investigating the feasibility of medical tours to countries where costs are less expensive. Foreign physicians and medical institutions, which are owned more than 50% by foreign capital, are not permitted to practice medical treatment in Thailand under the current laws. Still, there may be business opportunities for Japanese companies. An aging population is no longer a problem unique to Japan and Thailand's population is projected to decline after hitting its peak in 2040, according to U.N. data. Both manufacturing and service sectors have business opportunities to meet increasing medical demands in the general public due to an aging society (personal services, medical devices and pharmaceuticals).

In Indonesia, the service market is growing along with the expansion of the middle class. The economy is steadily growing with a real GDP growth rate of 6.1% over the previous year in 2008 and it registered a 4.4% growth in the first quarter of fiscal 2009 over the same period of the previous year. While many areas of the manufacturing sector recorded a decline, private consumption of the same quarter grew by 5.8% and the strong areas in the services sector are retail and food & beverages. An underlying factor for strong retail sector is a massive expansion of large-scale retailers.

Details of a survey carried out by a research company, Nielsen (a survey on growth rates of retail sales carried out in six major cities from January to March 2009), show that while the total retail sales of daily consumer goods (50 items) of the retailers as a whole grew by 8.1% over the previous year, that of large-scale retailers increased by 12.7%. While the total retail sales of grocery products of retailers as a whole grew by 7.5%, that of large-scale retailers increased by 11.1%. While the total retail sales of household goods of the former grew by 8.2%, that of the latter increased by 16.4%. All these figures indicate that the growth of large-scale retailers is much higher than that of retailers as a whole. In particular, the recent retail scene has experienced a plethora of foreign supermarkets, such as Carrefour from France and Ace (a home center) from the United States. Carrefour has been expanding its business by acquiring local retailers, in addition to establishing new stores.

South Korea's Lotte has also successfully acquired local retailers, indicating an activated entry of foreign capital into retail markets. In view of protecting micro, small and medium enterprises, the government of Indonesia does not, in principle, approve the entry of foreign capital into retail markets. The foreign capital entering Indonesia either has met the criterion of the sales floor area as an exception to the foreign investment restrictions or has franchised the system.

Japanese retailers have also entered the market. For example, department stores such as SOGO and SEIBU and the consumer electronics retailer Best Denki are opening up in large shopping malls, targeting the middle class or higher. Following these moves, the convenience store 7-Eleven, and the clothing and general merchandise store MUJI are planning to open their first stores in the capital of Jakarta before the end of 2009. This market, with a total population of 230 million people, is large, and offers huge opportunities for foreign retailers.

■ **Expanding service market in Brazil through acquisition of local businesses**

Among emerging countries, Brazil is notable for its low entry barriers for foreign capital into various industries. In the service sector, 100% foreign capital investment is possible in

principle, except for some industries, such as aerospace, health/ medical care, mass media, etc.

A high presence of foreign companies is found in communications, retail and education; most of them have entered the market through acquisition of local companies.

The top three companies in the communications sector are foreign. The top ranked Telefonica of Spain has secured the market by acquiring State of Sao Paolo-run Telesp, which had boasted its high market share. Currently, fixed telephones are mostly monopolized by Telefonica. In the area of mobile phones, it maintains the largest share through a joint company with a Portuguese company.

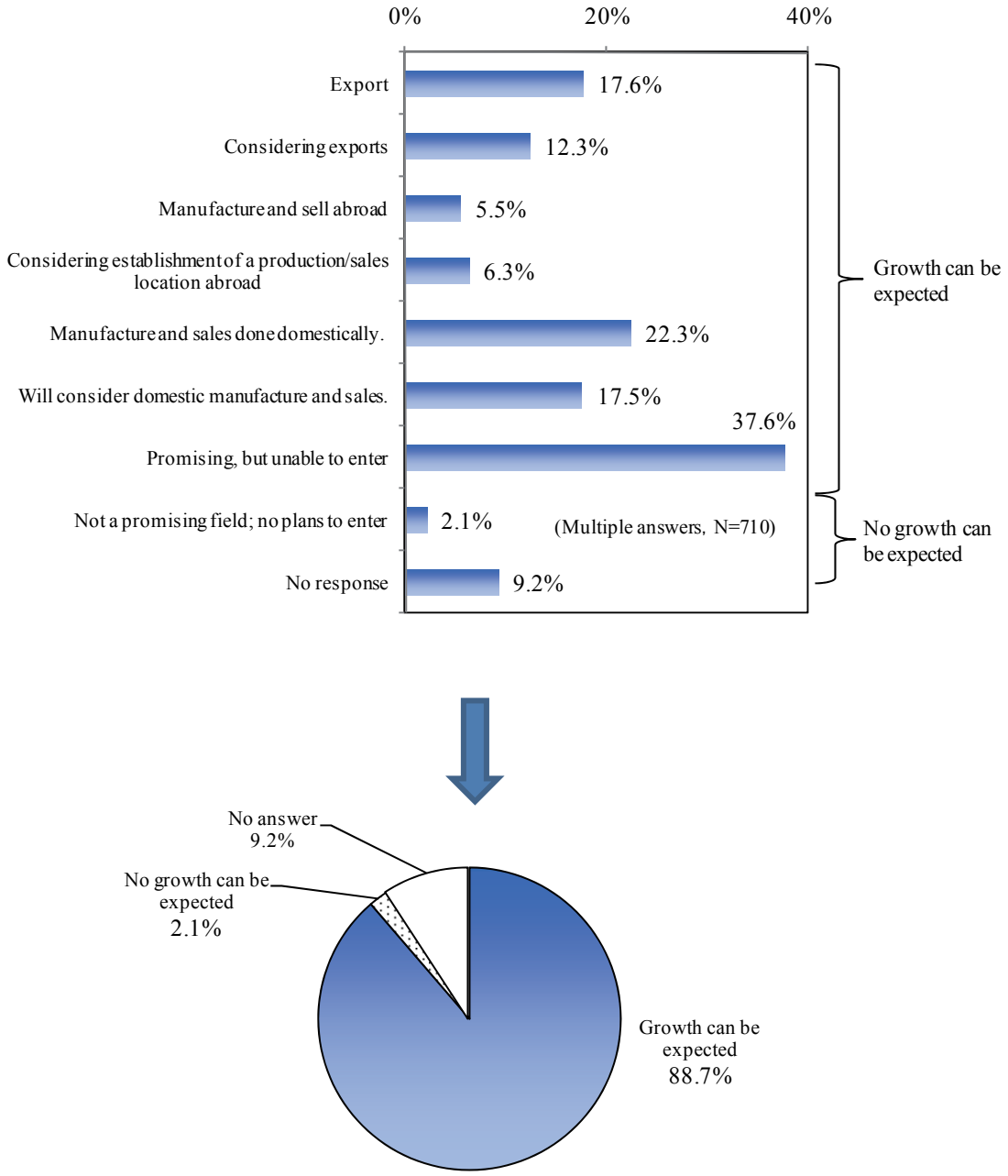
Foreign capitals lead the retail sector as well. French supermarket Carrefour, having the largest share in France, chose Brazil to mark its first footprint on the American Continent and expanded the store network throughout the country by acquiring the local supermarket chain Atacadão in April 2007. The second-ranked Pan de Azúcar is owned by a French Casino group. The third-ranked Walmart of the United States is also expanding its share by acquiring a local retail chain, etc. These three companies comprise more than 70% of the sales of the supermarket chains in Brazil.

Since consumers' tastes depend greatly on locality, foreign capital supermarkets will continue to expand the share by acquiring good local companies.

Low-income households have not been the target of the marketing strategy in Brazil. However, business has recently been expanding to the low-income households backed by an improvement in purchasing power. Such move is represented by Walmart, which has been focusing on business development in the North East, the home of many low-income people.

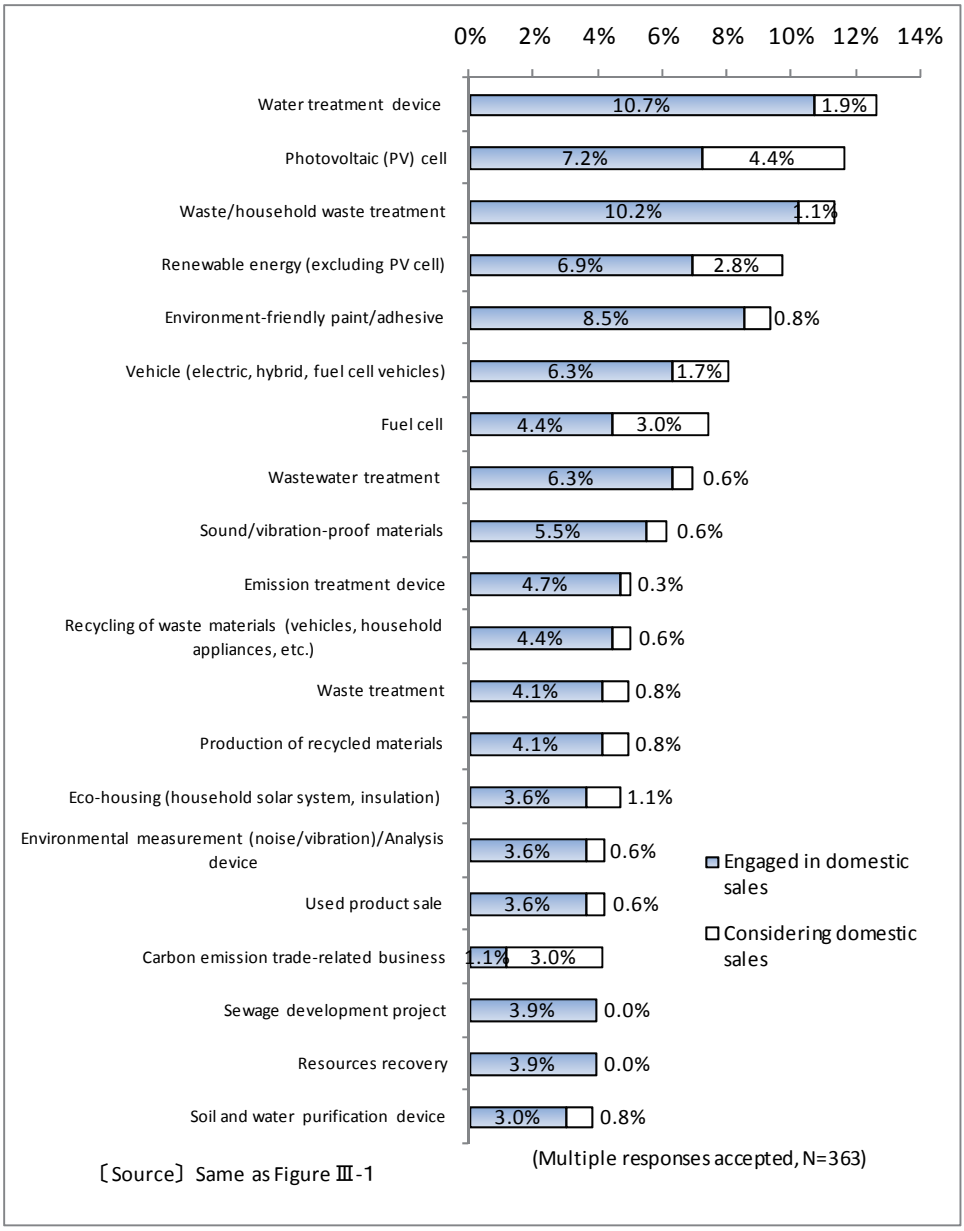
A major example of Japanese companies extending the business opportunities in the service sector in Brazil is the case in which Millea Holdings (current: Tokio Marine Holding, Inc) strengthened its business in Brazil by acquiring 100% of Real Seguros, an insurance company owned by ABN AMRO (acquired by Santander in 2007), in 2005. As in the case of Asia, Kumon is firmly established in Brazil. Because of the presence of 1.5 million Japanese Brazilians and the Japanese food boom, such as sushi and sashimi, Japanese food chains, such as gyudon, seem to have high potential for penetration.

Figure III-1 Japanese Companies' Approach to the Eco-Business Market



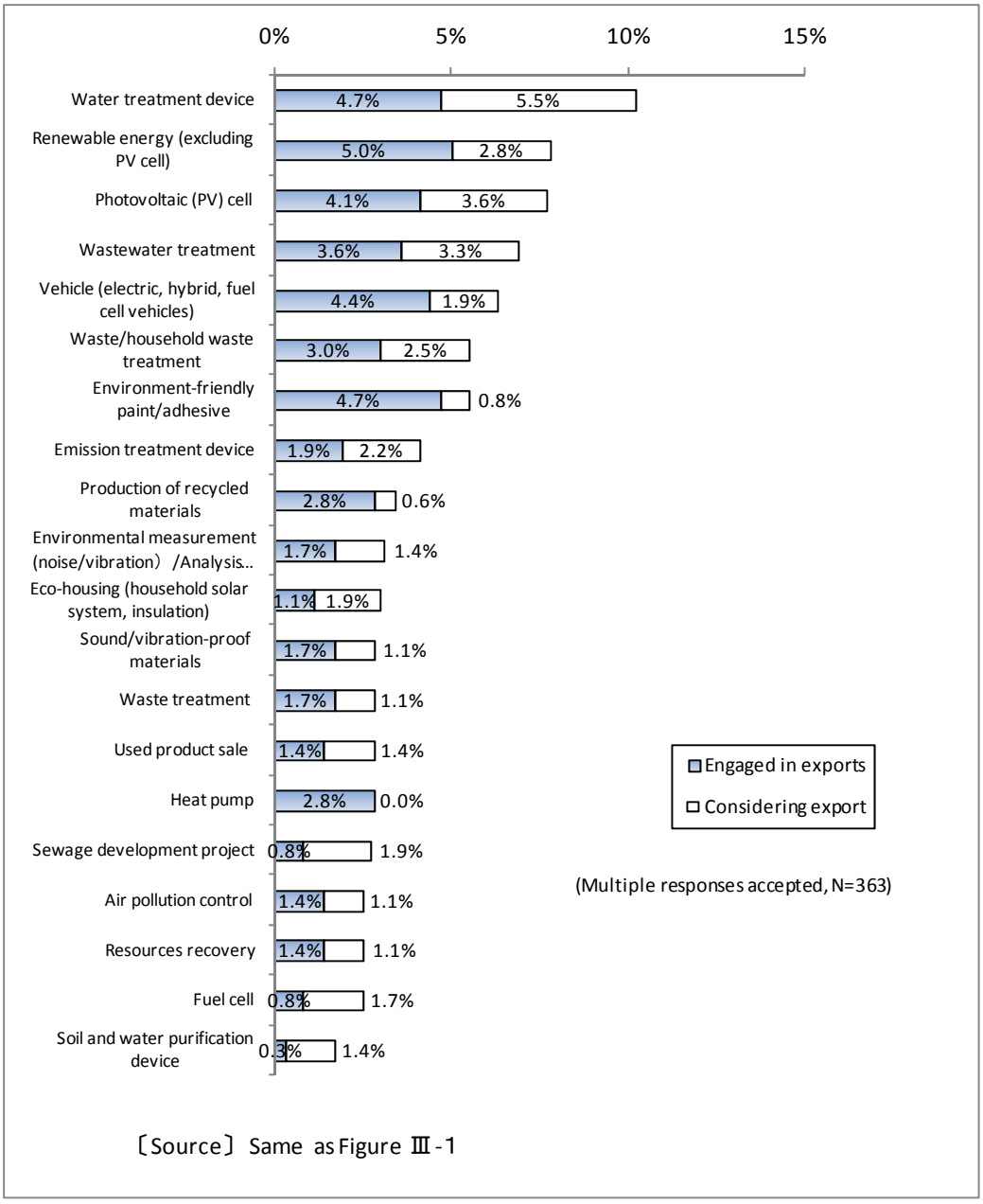
(Note) Survey period: April-May 2009; effective responses: 831 companies (24%)
(Source) "Survey Report on World Consumer Markets and Environmental-Business Markets" (JETRO, 2009.)

Figure III-2 Domestic sales



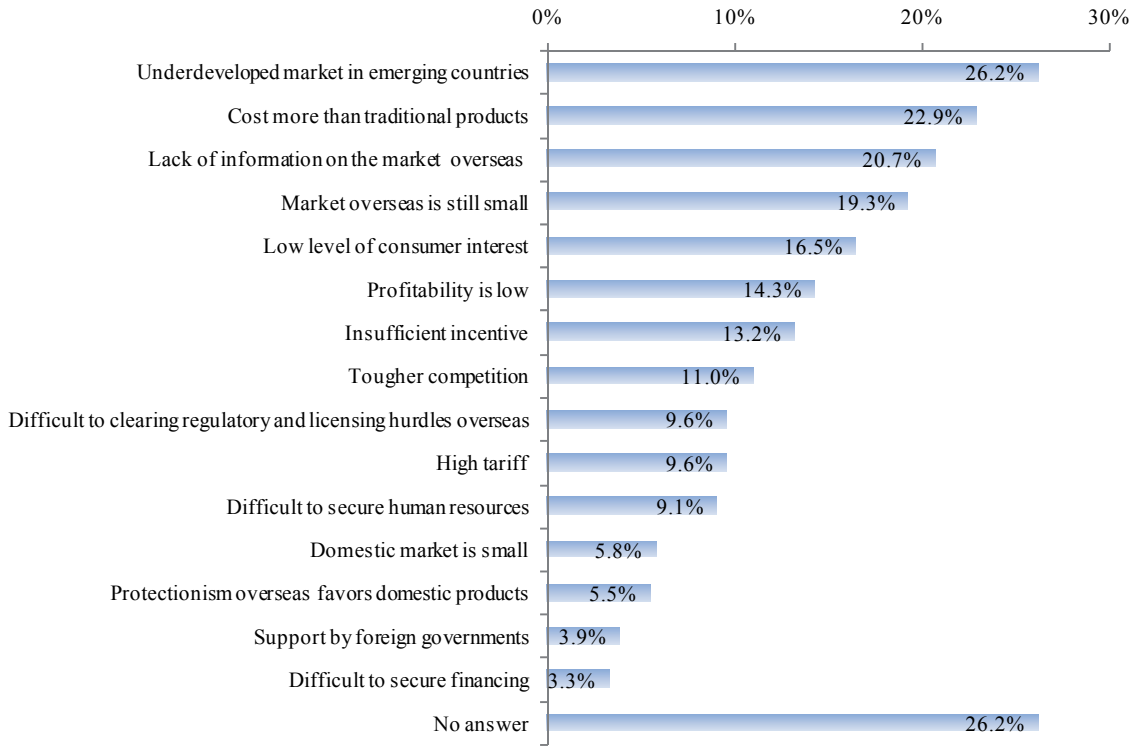
〔Source〕Same as Figure Ⅲ-1

Figure III-3 Exports



〔Source〕 Same as Figure Ⅲ-1

Figure III-4 Obstacles in Engaging in Eco-Business



(Source) Same as Figure III-1

Table III-1 A Global-Competition Strategy Leveraging Eco-Business for Japanese Companies

【Mid- and Long-Term Outlook for the Global Economy】
Development of multipolar world economy, characterized by the G20. ⇒Though the emerging countries' economic growth are moderate, their expanding consumption is driving the world economy.
The IT industry, investment funds and natural-resource/energy sectors drove trade and investment in the1990s and early 2000s ⇒Promising fields now include renewable (clean) energy, low-carbon products and other green-business sectors.
【Environmental-Business Growth Strategy for Japan】
Competitive Strategy for Japanese Products ⇒(1) High-value-added products with enhanced functionality, (2) Growth products targeting middle-income consumers in emerging countries, (3) Green products incorporating environmentally-friendly technology.
Japan's global strategy hinges on incorporating the growth in the emerging countries. ⇒Effective economic aid and support should be provided to environmental-business sectors in emerging countries, especially in Asia, to drive export growth and more direct investment abroad
Agriculture, forestry, food-processing industry, construction/real estate, petrochemicals, materials/steel, automobiles, general machinery, electric machines, precision medical equipment ⇒Greener, more energy-saving, less resource-intensive ⇒Aim for enhanced competitiveness and pursue global expansion in renewable energy (solar, wind, geothermal, biomass) and low-carbon sectors (electric cars, alternative fuel, green housing, carbon capture and storage, trading in emission rights) which are positioned to deliver higher growth than "traditional environmental industries" such as air pollution, water/waste management and recycling.
Create universal, standardized environmental-business statistics ⇒Establish mechanism for comprehensive evaluation of the technical sophistication of Japan's environmental-business products and services, product-development ability and service-provision aptitude; feed the results into policymaking.
Proactively support global expansion of global environmental-business market ⇒Collect information on developed and emerging countries' environmental businesses; host symposia; support participation in exhibitions, exports, expansion overseas and business matching.
Revitalize rural areas by supporting environmental business (waste management, wastewater treatment, recycling of waste, wind power, solar energy, geothermal energy, etc.

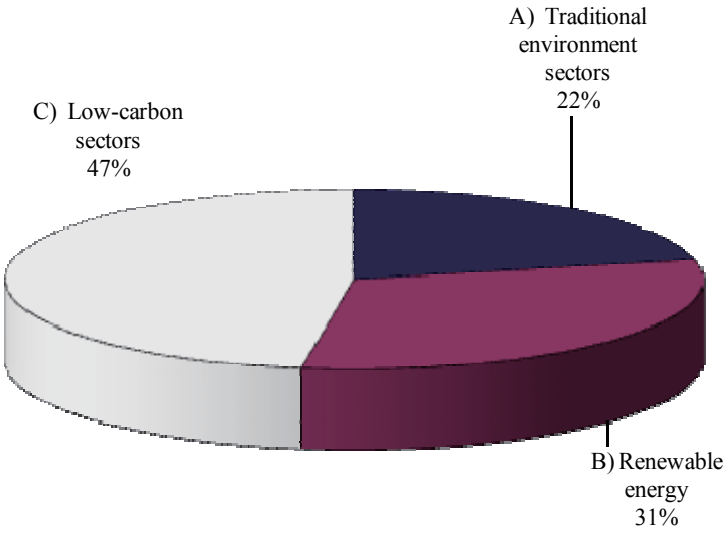
(Source) Compiled by JETRO

Table III-2 Global Environmental-Business Market Size

Organization	Environmental-Business Market Size
UK Department for Business, Enterprise and Regulatory Reform (BERR), announced March 2009	FY2007-08 environmental-business market size of £3.5 trillion (¥605 trillion at £1=¥198 [March 2008 exchange rate]). 45% growth to £4.4 trillion in FY 2014-15.
German Federal Ministry for the Environment, November 2007	2005 global environmental-business market size of 1 trillion euros (¥137 trillion at 2005 average conversion rate of 1 euro=¥ 136.89). Average annual growth rate of 5.4% to 2.2 trillion euros in 2020.
European Commission	Environmental-business market size of 270 billion euros (¥36.5 trillion) in 2006, employing 2.3 million people.
Environmental Business International (US)	According to the "2008 White Paper on the Environment," the EBI's estimate of the global environmental-business market size was $692 billion in 2006 (¥80.5 trillion at 2006 average exchange rate of $1=¥ 116.31). According to "Report 2020," published by EBI, the size of the market would expand 22.3 % in six years from $628.6 billion in 2004 to $768.7 billion in 2010.
Japan Ministry of the Environment ("2008 White Paper on the Environment")	Japan's environmental-business market expanded from ¥30 trillion in 2000 to ¥45 trillion in 2006.

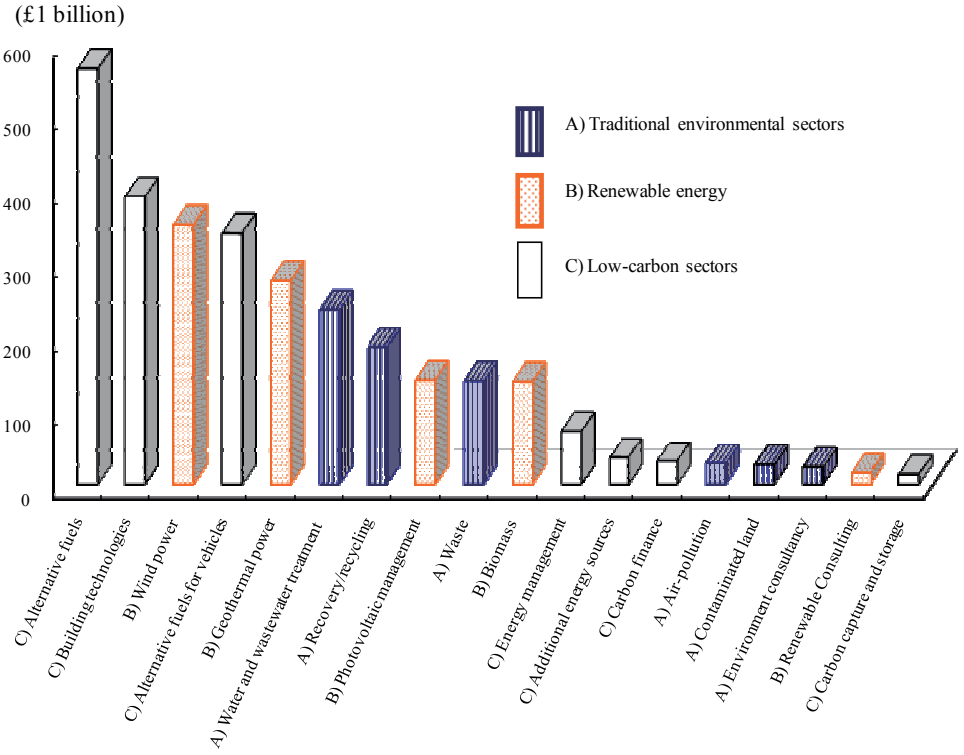
(Source) Compiled from various sources.

Figure III-5 World Environmental-Business Market Size (£3.46 trillion [approx. ¥605 trillion] in FY2007-08)



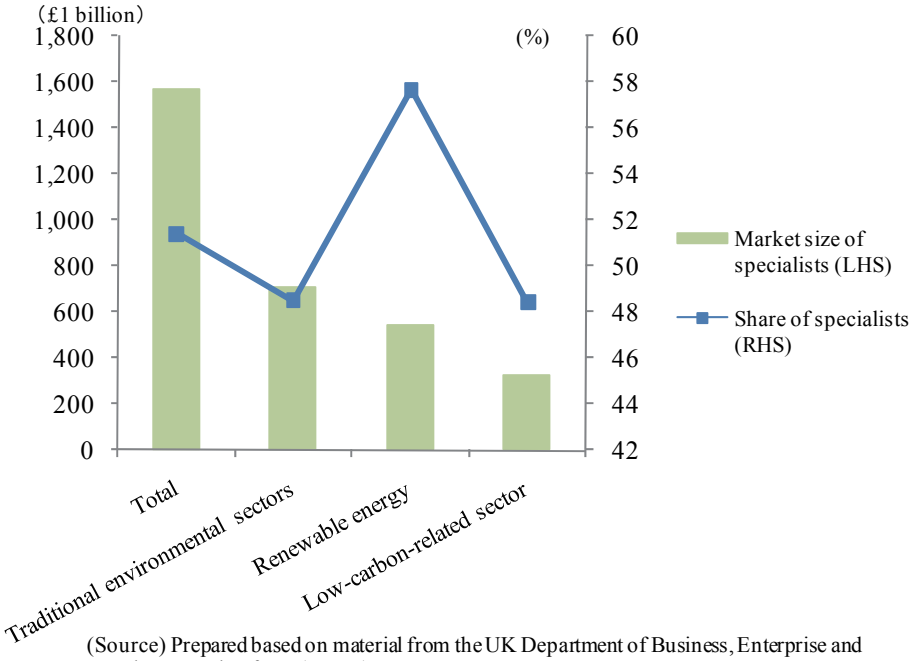
(Source) Prepared based on material from the UK Department of Business, Enterprise and Regulatory and Reform (BERR).

Figure III-6 Global Environmental-Business Market Size, by Sector (FY 2007-08)



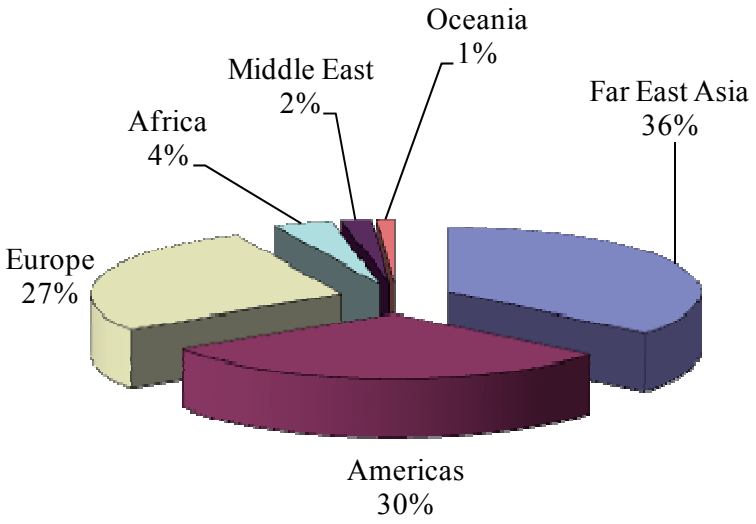
(Source) Prepared based on material from the UK Department of Business, Enterprise and Regulatory and Reform (BERR).

Figure III-7 Specialist Environmental-Business Market Size (2007/2008)



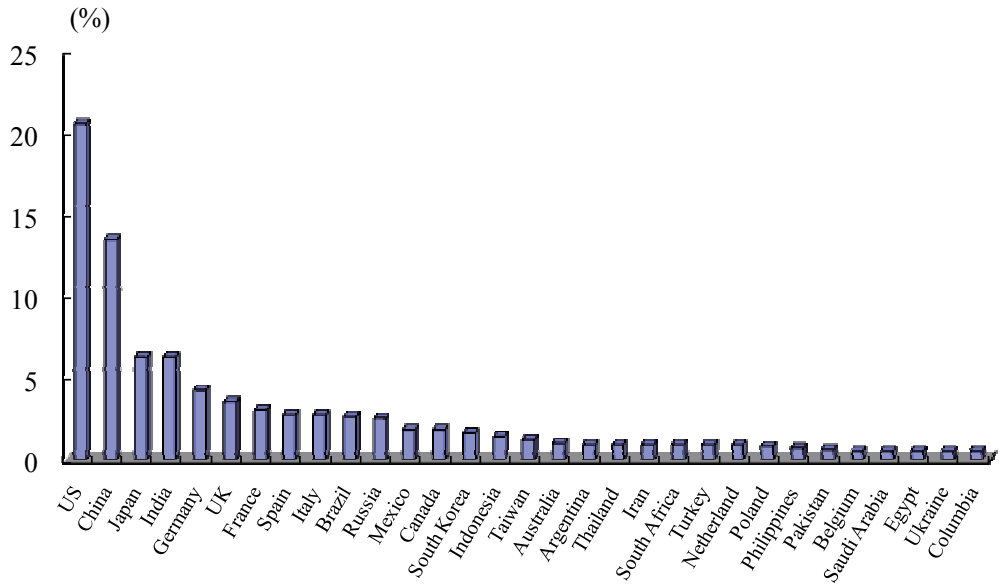
(Source) Prepared based on material from the UK Department of Business, Enterprise and Regulatory and Reform (BERR).

Figure III-8 Environmental-Market Share by Region (FY2007-08)



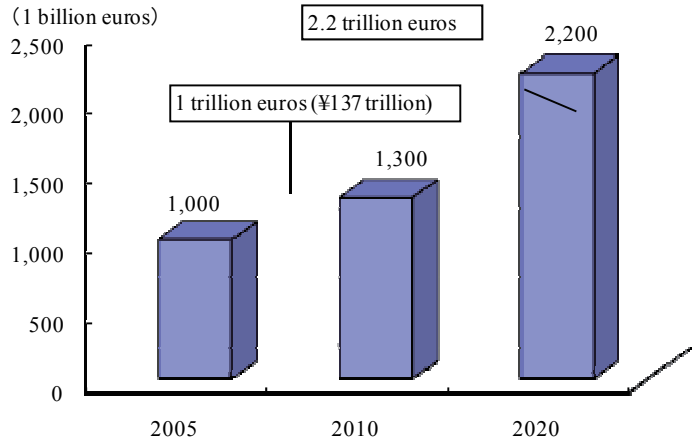
(Source) Prepared based on material from the UK Department of Business, Enterprise and Regulatory and Reform (BERR).

Figure III-9 Environmental-Business Market Share by Country (FY 2007-08)



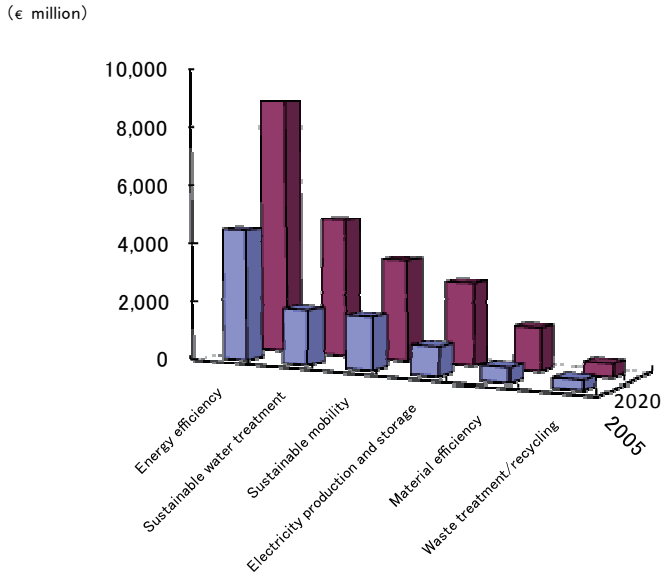
(Source) Prepared based on material from the UK Department of Business, Enterprise and Regulatory and Reform (BERR).

Figure III-10 Global Environmental-Business Market （2005, 1 trillion euros/¥137 trillion）



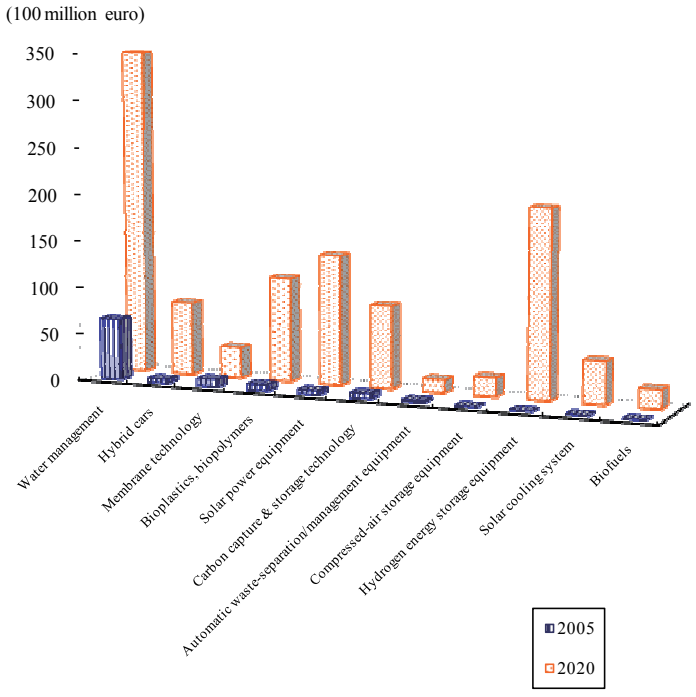
(Source) Prepared based on material from the German Federal Ministry for the Environment

Figure III-11 Global environmental market by sector



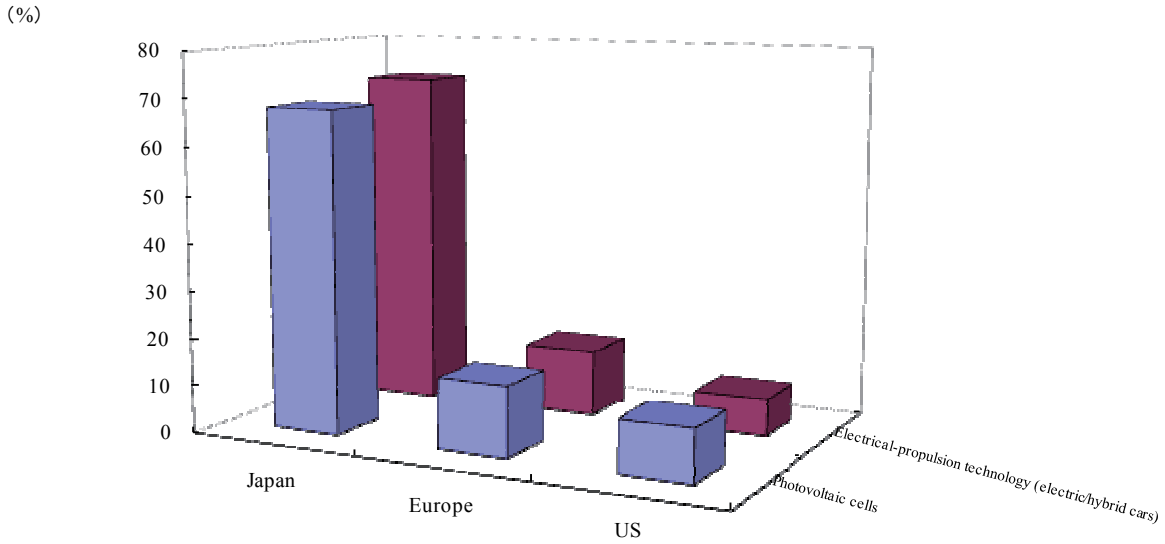
(Source) Compiled based on Innovative environment growth markets from a company perspective, The German Federal Environment Agency

Figure III-12 Environmental-Business Sectors Forecast to Grow Worldwide



(Source) Prepared based on material from the German Federal Ministry for the Environment

Figure III-13 Number of Patents Granted by Country



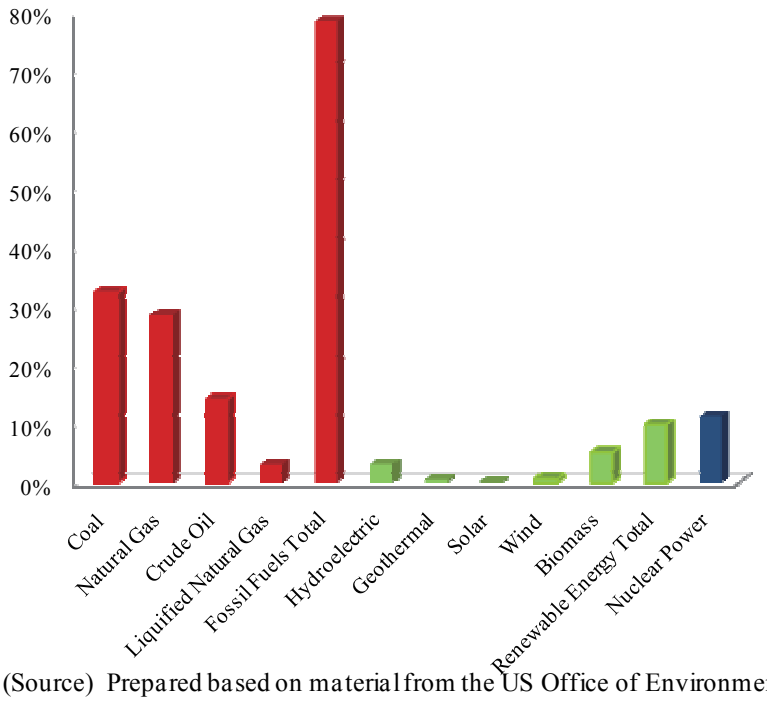
(Source) Prepared based on "Japan's Technological Competitiveness from the Patent Viewpoint 2008" (Japan Patent Office)

Table Ⅲ-3 Sales, number of corporations and number of employees of environmental market in the U.S.

	2007 Market size ($1 billion)	2007 Share	2005 Share	2007 Number of corporations	2007 Number of employees (people)
a. Pollution management service	**141.02**	**46.6%**	**47.9%**	**43,790**	**852,100**
Analysis	1.89	0.6%	0.7%	1,080	20,500
Wastewater treatment	39.06	12.9%	13.4%	26,200	152,600
Waste treatment service	53.2	17.6%	18.1%	10,050	280,700
Harmful waste treatment	9.08	3.0%	3.2%	630	45,600
Disposal of contaminated substances	12.18	4.0%	4.1%	2,220	104,100
Consulting/engineering	25.61	8.5%	8.4%	3,610	248,600
b. Pollution control device	**63.89**	**21.1%**	**22.6%**	**6,080**	**430,200**
Water treatment equipment/agents	27.29	9.0%	9.4%	2,080	164,400
Measurement/information system equip	5.49	1.8%	1.8%	840	39,200
Air pollution control equipment	18.31	6.1%	7.0%	1,900	118,900
Waste treatment equipment	11	3.6%	3.8%	920	76,700
Pollution control production technology	1.8	0.6%	0.6%	340	31,000
c. Efficient use of resources	**97.42**	**32.2%**	**29.5%**	**68,480**	**485,000**
Water reuse	37.89	12.5%	13.3%	61,800	153,700
Resource reuse	31.23	10.3%	7.9%	5,050	213,900
Renewable energy	28.3	9.3%	8.4%	1,630	117,400
Total	**302.3**	**100.0%**	**100.0%**	**118,350**	**1,767,300**

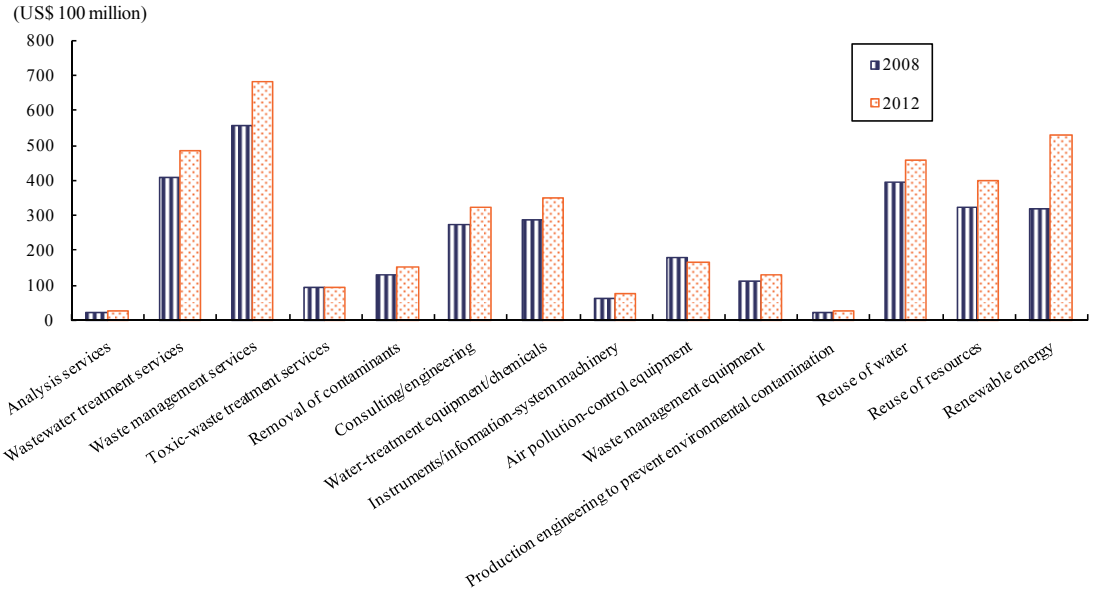
〔Source〕Compiled based on “The U.S. Environmental Industry Overview 2009,” Environmental Business Journal

Figure III-14 Renewable Energy's Share of Total US Energy Production (2008)



(Source) Prepared based on material from the US Office of Environmental Information.

Figure III-15 Change in US Environmental-Business Sales by Sector (2008-2012)



(Source) Environmental Business Journal, "The US Environmental Industry Overview 2009"

Table III-4 Sales of environmental business in South Korea by sector

(Unit: 1 million won, %)

Environment-related industry		2007		
		Amount	Growth rate	Share
Total		**34,111,652**	**16.9**	**100.0**
Pollution management-related production		**5,729,441**	**28.8**	**16.8**
	Air pollution control device	2,174,687	9.7	6.4
	Wastewater management device and product	2,604,883	55.5	7.6
	Solid waste management device	253,609	△ 8.6	0.7
	Soil, surface water, underground water improvement and purification equipment	222,586	146.5	0.7
	Noise and vibration reduction equipment	283,208	1.7	0.8
	Environmental monitoring, analysis and measurement device	190,468	32.4	0.6
Resource management-related production		**6,877,591**	**△ 5.5**	**20.2**
	Power generation, water works and energy storage	4,434,919	3.6	13.0
	Recycled materials and recycled products	2,442,672	△ 18.5	7.2
Pollution management-related construction		**5,319,406**	**37.0**	**15.6**
	Air pollution control-related facility	1,587,203	57.9	4.7
	Wastewater management-related facility	3,166,142	29.5	9.3
	Solid waste management-related facility	454,189	32.6	1.3
	Noise and vibration reduction facility	111,872	22.4	0.3
Resource management-related distribution		**8,758,753**	**19.3**	**25.7**
	Distribution of recycled products	8,758,753	19.3	25.7
Pollution management-related services		**7,426,461**	**19.1**	**21.8**
	Air pollution control	780	103.7	0.0
	Wastewater management	1,485,000	11.8	4.4
	Solid waste management	4,717,708	18.0	13.8
	Soil, surface water, underground water improvement and purification	117,141	89.3	0.3
	Environmental R&D	163,926	18.9	0.5
	Environment-related contract and engineering	662,687	15.5	1.9
	Analysis, information collection and assessment	279,219	106.6	0.8

〔Source〕Statistical Report on Environmental Industry (May 2008)

Table III-5 Details of EU's environmental market by sector (EU25, 2004)

Sector	Market size (€100 million)	Share (%)
Pollution control	1,449	63.9
Solid waste treatment and recycling	524	23.1
Wastewater treatment	522	23.0
Air pollution control	159	7.0
Environmental management by government	115	5.1
Environmental management by company	58	2.6
Soil/underground water purification	52	2.3
Noise/vibration control	2	0.1
R&D on environment	0.1	0.0
Environmental measurement/equipment	NA	NA
Efficient use of resources	818	36.1
Water supply	457	20.2
Recycled materials	243	10.7
Renewable energy	61	2.7
Nature protection	57	2.5
Eco-housing construction	NA	NA
Total	2,267	100.0

Commission report

Table III-6 Wind Power Markets in Major European Countries

	Newly Constructed Capacity (MW) 2008	Aggregate Installed Capacity (MW) December 2008	Rate of Growth (%) versus 2007	Energy Production 2008 (GWh)	Rate of Growth (%) versus 2007
Germany	1,665	23,903	7.4	41,923	6.1
Spain	1,609	16,740	10.5	34,207	26.5
Italy	1,010	3,737	37.1	5,957	47.7
France	949	3,404	38.7	5,654	39.5
UK	869	3,288	35.9	6,591	25.0
Denmark	78	3,180	1.8	7,300	1.8
Portugal	712	2,862	33.1	5,700	41.1
Netherland	499	2,225	27.4	4,200	22.2
Sweden	190	1,021	22.9	2,021	41.3
Ireland	208	1,003	26.2	2,298	22.6
Austria	14	995	1.3	2,040	1.0
Greece	114	985	13.1	2,159	16.9
Poland	153	451	51.3	723	53.2
Belgium	104	384	33.8	653	25.6
Others	273	803	50.9	1,261	67.4
EU27 Total	8,447	64,981	14.8	122,687	18.6

(Source) “Wind Energy Barometer (February 2009)”, EurObserv’ER。

Table III-7 Projected Growth in EU Offshore Wind Power Capacity (as of January 2009)

(MW)

Country	In operation (as of January 2009)	Share (%)	Under construction	Planned	2015 Projection	2015 Share (%)
Germany	12	0.8	733	10,183	10,928	29.2
UK	591	40.2	1,392	6,773	8,756	23.4
Sweden	133	9.0	30	3,149	3,312	8.8
Netherlands	247	16.8	0	2,587	2,834	7.6
Spain	0	0	0	1,976	1,976	5.3
Denmark	409	27.8	449	418	1,276	3.4
Other EU	79	5.4	0	8,281	8,360	22.3
EU Total	1,471	100.0	2,604	33,367	37,442	100.0

(Source) European Wind Energy Association

Table III-8 European Solar Power Market

Country	Newly Constructed Capacity (MWp) 2008	Aggregate Installed Capacity (MWp) December 2008	European Share (%)	Capacity Growth Rate over previous year (%)
Germany	1,505	5,351	56.1	39.1
Spain	2,671	3,405	35.7	364.0
Italy	197	318	3.3	164.0
France	44	91	1.0	95.3
Belgium	50	71	0.7	231.0
EU27 Total	4,592	9,533	100.0	92.9

(Source) "Photovoltaic Barometer (March 2009)", EurObserv'ER。

Table Ⅲ-9 Potential production volume of environmental protection products in Germany (by objective)

(Unit：€1 billion)

	2002	2003	2004	2005	2006	2007
Waste treatment	2.9	2.8	3.1	3.5	4.1	4.7
Wastewater treatment	9.7	9.9	10.7	11.4	12.6	14.3
Air pollution control	14.1	14.6	15.5	15.8	17.8	19.7
Measurement technology	13	13.4	14.5	15.3	16.8	18.3
Energy/environment [1]	9	9.4	10	10	12.3	14.1
Of which：						
Energy-efficient product	6	6.4	6.3	6.4	7.2	7.9
Efficient energy conversion product	1.2	1	0.9	1	1.3	1.4
Product using renewable energy	1.7	2.1	2.8	2.6	3.8	4.8
Total [2]	47.4	48.5	52.6	54.6	62.1	69.5
Percentage of industrial output	4.7	4.8	4.9	4.8	5.1	5.3

[Note] (1) Excluding heat pump

(2) Including noise control. Computed considering overlaps. Some data are estimates.

[Source]Compiled based on "Umweltwirtschaftsbericht 2009," the Federal Environment Agency

Table III-10 FY2007-08 UK Environmental-Business Market Size

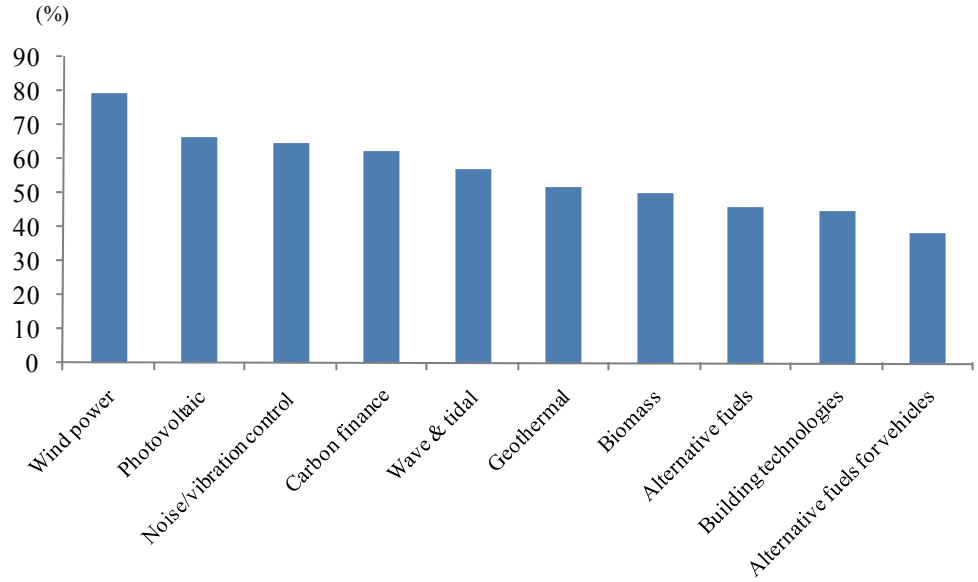
(£1 billion, %)

Category		Market size	Share
Traditional Environmental Sectors	Air pollution	1.0	0.9
	Environmental consultancy	0.7	0.7
	Environmental monitoring	0.2	0.1
	Marine pollution control	0.1	0.1
	Noise/vibration control	0.2	0.2
	Contaminated land	0.9	0.9
	Waste management	4.8	4.5
	Water and wastewater treatment	7.9	7.4
	Recovery/recycling	6.5	6.1
Renewable-Energy Categories	Hydro	0.5	0.5
	Wave & tidal	0.1	0.1
	Biomass	5.0	4.6
	Wind	11.3	10.6
	Geothermal	9.2	8.7
	Renewable consulting	0.5	0.5
	Photovoltaic	4.4	4.2
Low-Carbon Sectors	Alternative fuels for vehicles	12.6	11.8
	Alternative fuels	18.5	17.3
	Additional energy sources	1.2	1.1
	Carbon capture and storage	0.5	0.4
	Carbon finance	5.2	4.9
	Energy management	2.5	2.4
	Building technologies	12.9	12.1
Total		106.5	100.0

(Note) "Alternative fuels" includes nuclear and biomass energy and biofuels (excluding biofuels for vehicles). "Alternative fuels for vehicles" includes LPG, biodiesel and bioethanol. "Building technologies" are those designed to improve energy usage.

(Source) BERR report.

Figure III-16 Projected 7-Year Growth Rate in the UK Environmental-Business Market (Top 10 Categories)



(Source) BERR report.

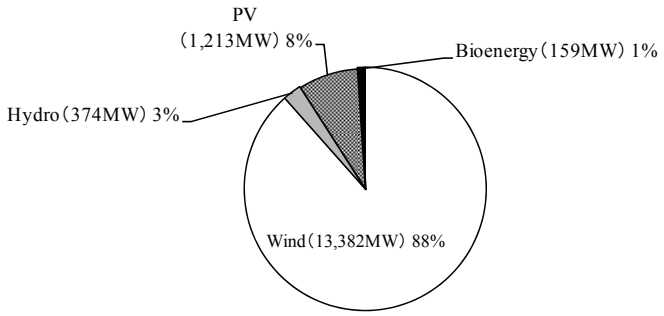
Table III-11 Market size of environmental business in Spain

Unit: €1 million, %

			2000	2007	2007/2000 Growth Rate	2007 Share
A. Pollution control			5,876	16,360	178.4	85.7
	Water	Sub-total	2,691	5,600	108.1	29.3
		Water supply	2,158	3,472	60.9	18.2
		Water purification	533	2,128	299.2	11.1
		Of which, desalination	n.a.	168		0.9
	Waste mate	Sub-total	3,095	10,760	247.7	56.3
		Urban solid waste	1,154	3,785	228.0	19.8
		Road cleaning	888	1,010	13.8	5.3
		Industrial waste	182	965	429.9	5.1
		Recycling	871	5,000	473.7	26.2
	Air		90	n.a.		
B. Environmental load reduction technology ar			n.a.	n.a.		
C. Effective use of resources			1,349	2,739	103.1	14.3
	Sustainable forestry		415	n.a.		
	Sustainable agriculture		105	400	282.5	2.1
	Eco-tourism		210	n.a.		
	Renewable energy		619	2,339	277.8	12.2
Total			7,225	19,099	164.3	100.0

〔Source〕Compiled from news releases: Data on 2000 (Ministry of Environment) and Data on 2007 (DBK (Market research company), Ministry of Environment and the association of recycling businesses)

Figure Ⅲ-17 Power generation from renewable energy under planning in Ontario, Canada (Total power generation capacity 15,128MW) As of December 2008



〔Source〕Compiled based on data of the Ontario Power Authority

Table III-12 Promising Environmental Business Sectors Worldwide and Business Opportunities for Japanese Companies in Various Countries

Main Growth Areas Worldwide			
	Traditional Environmental Sectors	**Renewable Energy**	**Low-Carbon Sectors**
BERR (UK)		Biomass power equipment, wind power equipment, geothermal power equipment, solar power equipment	Alternative fuel for vehicles, carbon finance, building technologies
German Federal Ministry for the Environment	Automatic waste-sorting and disposal equipment, water management, membrane technology	Solar power equipment	Biodiesel, bioplastics/biopolymers, carbon capture & storage (CCS), hybrid cars, hydrogen/compressed-air storage equipment, solar cooling systems
Promising Fields for Japanese Corporations in Various Country			
US	Contamination-preventing production engineering, waste management services	Wind power generation/geothermal power generation (turbines and related parts) solar energy power generation (cell equipment and related parts/materials)	Power-transmission/power-control equipment ("smart grid"), hybrid cars (plug-in), electric cars, electric-car recharging facilities, building technologies
Canada	Wastewater treatment equipment	Wind and solar power equipment	Biodiesel, bioplastics, smart grid, carbon capture & storage (CCS)
Mexico	Exhaust-heat reuse, steam-trapping equipment	Renewable energy including wind power generation equipment, solar power generation equipment (the Mexican government put into effect the detailed regulations of the 2009 Law for Renewable Energy)	Electricity-saving machinery (from incandescent to fluorescent lighting, adoption of inverters and converters), energy-saving household appliances (inverter air conditioning and refrigerators), light-emitting diodes (LED)
Europe	Measuring instruments, waste management equipment, water supply/sewage treatment equipment, recovery/recycling, afforestation business	Hydroelectric power-generation equipment (including turbines and related equipment), wind-power generating equipment (turbines and parts), biomass equipment/services, solar power generating equipment	Biofuels, fuel cells, hydrogen-fuel cells, energy-saving-technology products/services, electric cars, building technologies
Germany	Measuring instruments, automatic waste-sorting management equipment	wind power (including offshore) generation equipment, solar power generation equipment, photovoltaic cell-manufacturing equipment	Biodiesel, insulation, energy management products, energy management (green household appliances)
UK	Measuring instruments, noise/vibration control	Wave & tidal energy power generation equipment, wind power (including offshore) generation equipment, power-generating turbine equipment and related equipment, geothermal energy generation equipment, solar power generation equipment	Alternative fuels, carbon finance, smart grid, energy management products, building technologies
Spain	Urban solid waste-disposal equipment water treatment equipment, wastewater treatment equipment, recovery/recycling	Hydropower-generation and wind/solar power generation equipment	Biodiesel, bioethanol, biogas, next-generation electric/hybrid cars, recharging stations for electric cars
China	Air pollution-preventing equipment, environmental-monitoring machinery, noise/vibration control equipment, waste-treatment equipment, water/wastewater management equipment	Miniature hydropower-generation equipment, biomass power generation equipment, wind power generation equipment, solar power generation equipment, solar thermal utilization	Nuclear power production equipment, carbon capture and storage (CCS)
South Korea	Air pollution-preventing machinery, noise/vibration-abating equipment, soil/surface water/groundwater decontamination machinery, recovery/recycling-product manufacture	Equipment for wind/geothermal/solar/solar-thermal power generation and parts/materials	Energy management products, building technologies
UAE, Saudi Arabia	Waste management equipment, wastewater treatment/reuse equipment, water management, recycling	Solar/solar-thermal power generation equipment	carbon capture and storage (CCS)
Turkey	Air pollution-preventing equipment, soil/water-purification equipment, waste management equipment, water-treatment equipment, recovery/recycling	Wind/solar energy power generation equipment and parts	Biodiesel and bioethanol

(Sources) Prepared by JETRO based on material from BERR (UK), German Federal Ministry for the Environment and others.

Table III-13 Anti-global warming measures included in the economic stimulus package of major EU states

(As of January 2009)

Country	Details
Germany	Additional spending of €3 billion for renovation and refurbishment to improve efficiency Offer a €2500 incentive to consumers who buy a new car that fits the minimum Euro 4 emissions standards and at the same time scrap a vehicle that is more than nine years old. Provide small and medium enterprises with €900 million for R&D in environment/energy sector for two years Subsidy or loan of €500 million for two years for innovative vehicle technology, such as fuel cell and hydrogen technology
France	Front loading of public investment plan in the areas of transportation and energy Shore up the automobile and housing markets Expand the target of Scrap Incentive to vehicles that are at least ten years old and raise the incentive to €1000 Establish a half-public, half-private auto industry fund (total €300 million) for development investment for electric cars to improve competitiveness Introduction of preferential tax system to install highly efficient boiler and double glazed windows in January 2005
U.K.	Injection of £535 million for improvement of energy efficiency and railway transportation Postponement for financial support for the introduction of large-scale renewable energy (electricity) to 2037 Introduction of a fixed price feed-in tariff to support introduction of small-scale renewable energy Implementation of insulation measures through household energy-saving program Promotion of introduction of environmentally conscious vehicles by revising the automobile excise tax Support of technological innovation at every stage of environmental research, development, verification and dissemination
Italy	Extension of income tax deduction for 55% of building costs for energy-saving on housing, etc. in 2009
Spain	Interest-free or low-interest loan guarantee for replacement of a car that is owned for more than ten years with an eco-car. Exemption of the vehicle registration tax for the vehicles with CO^2 emissions of below 120g/km Subsidy for purchase of household appliances with high energy efficiency (implemented in 2008) Subsidy for making buildings energy-efficient (implemented 2008) Subsidy for the construction of energy-efficient new buildings

[Source]JETRO overseas offices

Table III-14 Current installation of renewable power generation facilities in Spain

Unit: MW

	New installation target by 2010（Cumulative Target）	Newly installed facilities by the end of 2007 （Cumutative Results）	Installation rate
Hydro (new installation of less than small- and med	810（18,977）	205（18,372）	25.3%
Biomass (including Combined Combustion)	1,695(2,039)	52（396）	3.1%
Urban solid waste	0（189）	0（189）	100.0%
Wind	12,000（20,155）	6,935（15,090）	57.8%
PV	363（400）	601（638）	165.6%
Biogas	94（235）	25（166）	26.6%
Solar thermal	500（500）	11（11）	2.2%
Total	15,462（42495）	7829（34,862）	50.6%

(Source) Ministry of Industry, Tourism and Commerce

Column Table III-1 JETRO's projects for environmental business and service-related assistance, and list of contact points

	Major projects in environment and service sectors	Competent department(s)
Business matching (including export/investment support programs)	Support for business matching at trade fairs, support for exchanges among local governments/organizations in Japan and overseas, export support for small and medium enterprises by exports, matching support and information collection/provision by experts dispatched abroad Support for business matching by supporting exhibitions at trade fairs Support including services support for development of video contents in China	Industry and Technology Department Trade Fair Department Overseas Market
Assistance for developing countries	By dispatching experts in environmental business to developing countries for the transfer of Japanese energy-saving technologies and know-how, and human resources development for advancement of distribution services of private sector in ASEAN countries	Overseas Business Support and Intellectual Property Department
Study, research, information dissemination	Introduction of the global environmental business and service markets in JETRO White Paper on International Trade and Foreign Direct Investment, Tsusho Koho (Daily global business news) and Monthly magazine "JETRO Sensor" Publication of various studies and research papers	Overseas Research Department Institute of Developing
Trade and investment consultancy	Conduct person-to-person consultation by trade and investment advisors with practical experiences in various specialties and regions by setting up consultation desks on trade and investment In North America, conduct support for consultation, entrepreneurship and partnering for environmental business support, and deliver a mail magazine called "Letter on Environment/Energy in North America" In China, establish "Japan-China Energy Conservation/Environment Cooperation Desks" in five offices (Beijing, Shanghai, Dalian, Qingdao, and Guangzhou) to support matching between Japan and China	Trade and Investment Consultation Center (Tokyo, Osaka), 36 domestic offices and 71 overseas offices of the Trade Information Center
Project outline and contact point of each department	**Industry and Technology Department**: Support for international exchange in new industrial sector, Support for global expansion of high-tech ventures, etc. **Industry and Technology Department**: Support for exhibition at national and international trade fairs **Overseas Market Development Department**: Support for exploration of global sales channels of small and medium enterprises **Overseas Business Support and Intellectual Property Department**: Support for industrial incubation in developing countries and for the promotion of economic partnership between Japan and developing countries **Overseas Research Department**: Research/analysis of international economic information and information provision through various media **Institute of Developing Economies**: Research on economies, society, politics, international cooperation/assistance in developing countries Trade and Investment Consultation Center: Consultations, information provisions on trade and investment	TEL: 03-3582-7571 TEL: 03-3582-5541 TEL: 03-3582-5313 TEL: 03-3582-5543 TEL: 03-3582-5544 TEL: 043-299-9500 TEL: 03-3582-5171

Column Figure III-1 Environmental Business related Exhibitions and Trade Shows with JETRO's participation

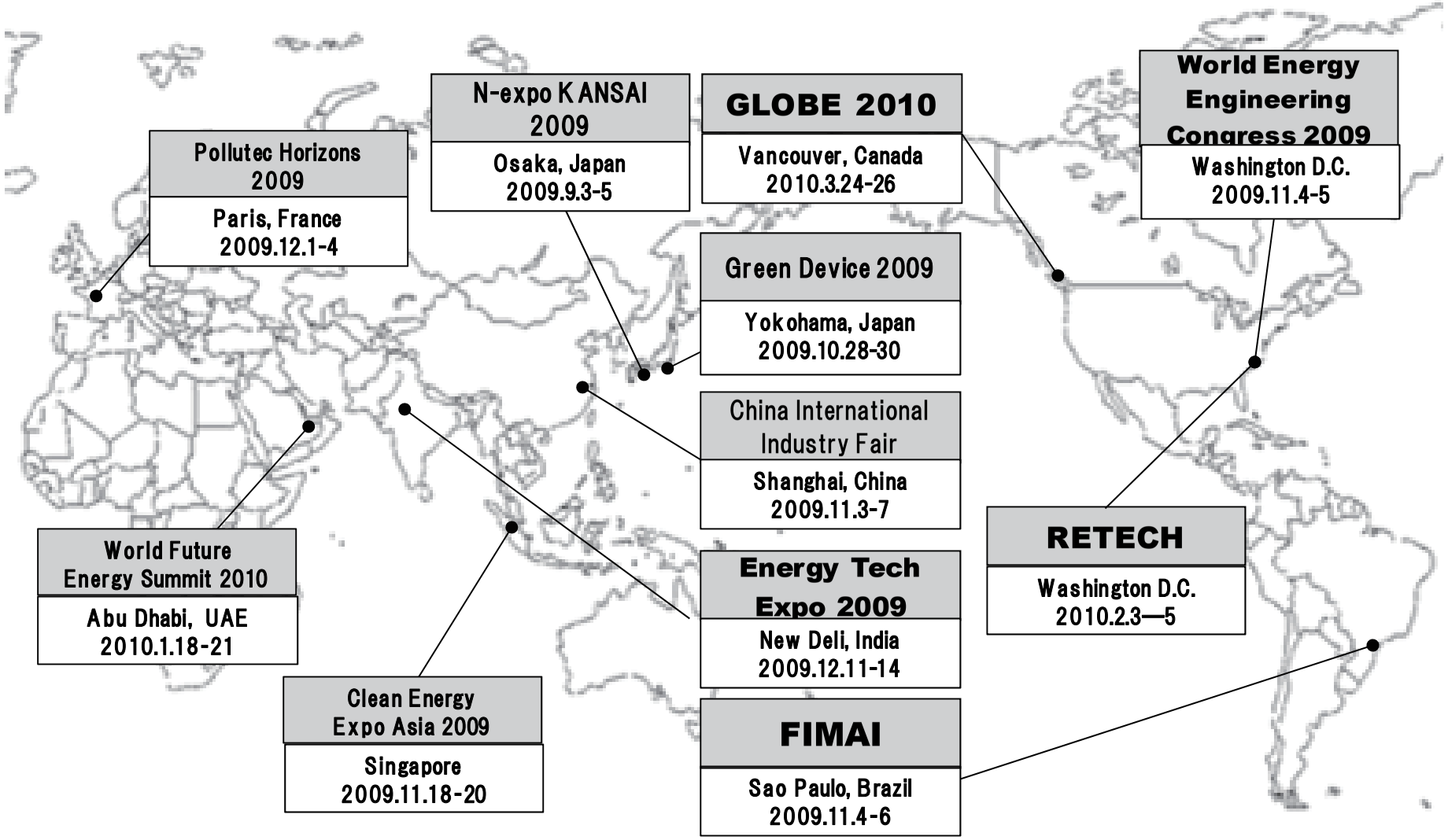


Table III-15 Global share of consumption expenditure of major regions

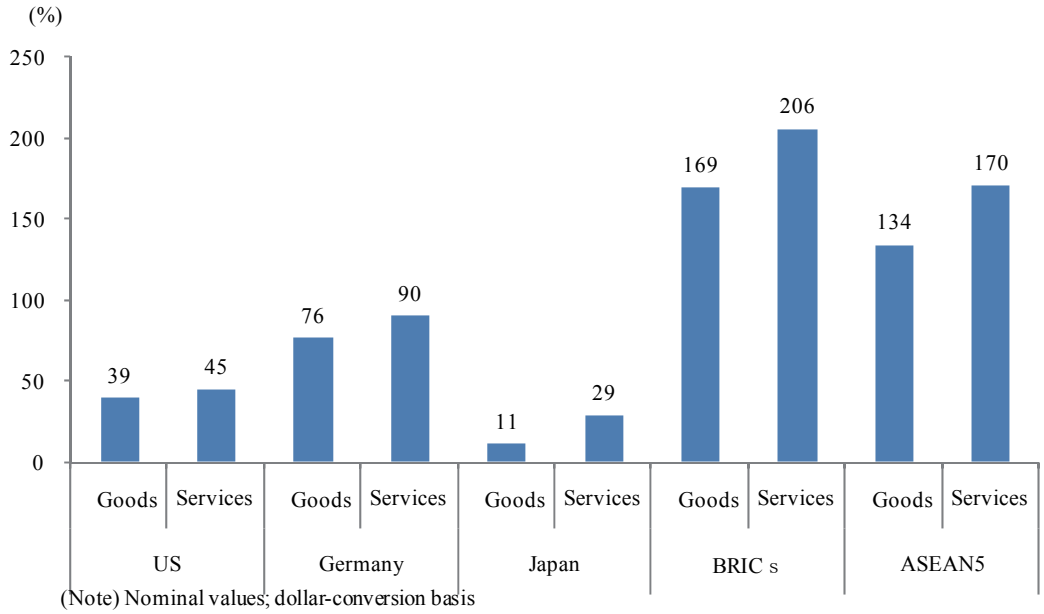
(Unit %)

		2003	2008
Emerging economies		22.9	30.9
	Asia (excluding Japan)	10.0	12.1
	East Europe	2.9	5.4
	Central/South America	5.7	7.5
	Middle East/Africa	4.4	5.8
Developed countries		77.1	69.1
	Japan	10.6	8.0
	North America	35.9	30.7
	West Europe	29.0	28.6
	Australia/NZ	1.6	1.7
(Reference) BRICs		7.3	11.4
	China	3.0	7.0
	India	1.6	2.9
	Russia	1.0	3.6
	Brazil	1.5	4.2
JFIC 16		6.1	8.0

[Note]Nominal value, based on dollar

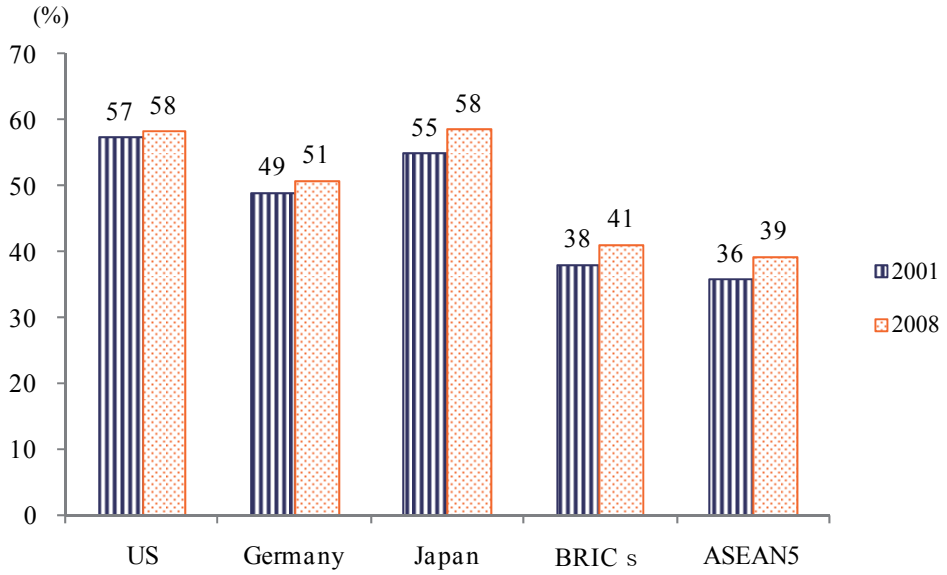
[Source]Compiled from the International Financial Statistics

Figure III-18 Growth in Goods/Services Expenditures by Country/Region



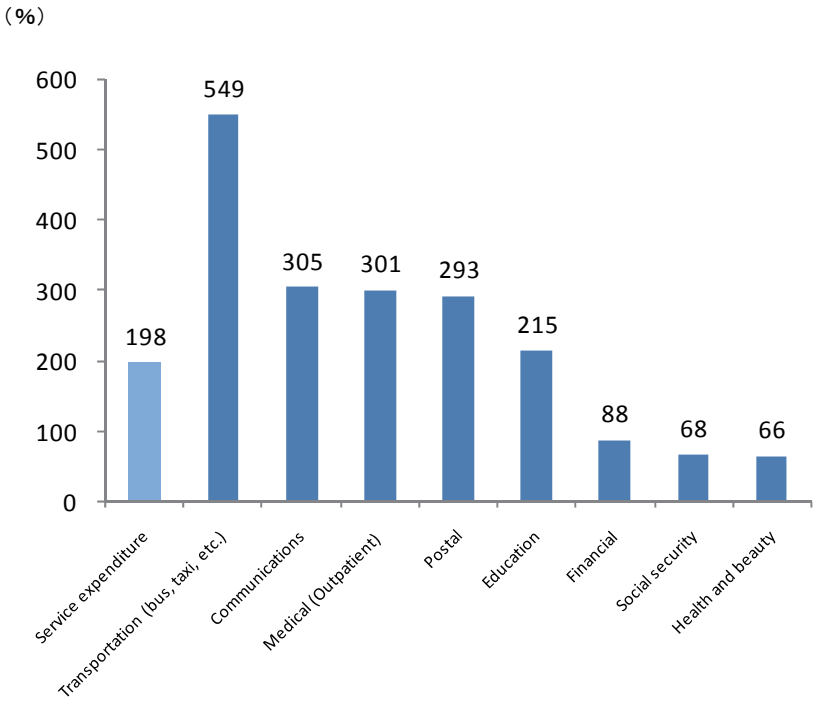
(Note) Nominal values; dollar-conversion basis
(Source) Prepared based on OECD statistics.

Figure III-19 Spending on Services as a Share of Consumption by Country (2001 and 2008)



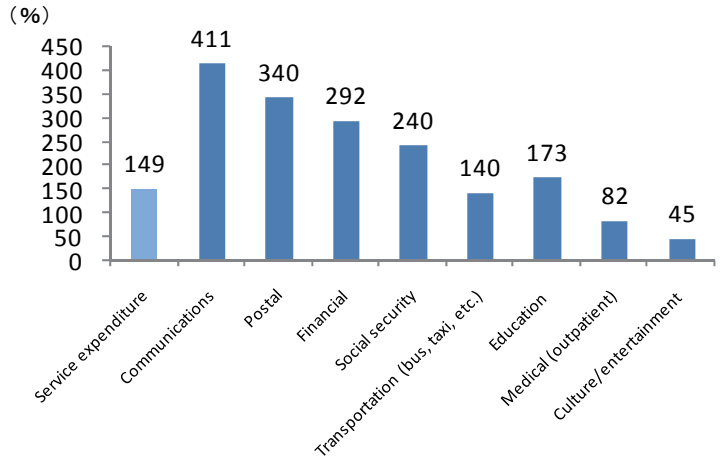
(Note) Nominal values; dollar-conversion basis

Figure Ⅲ-20 Growth of service areas by expenditure in China (2008/2001)



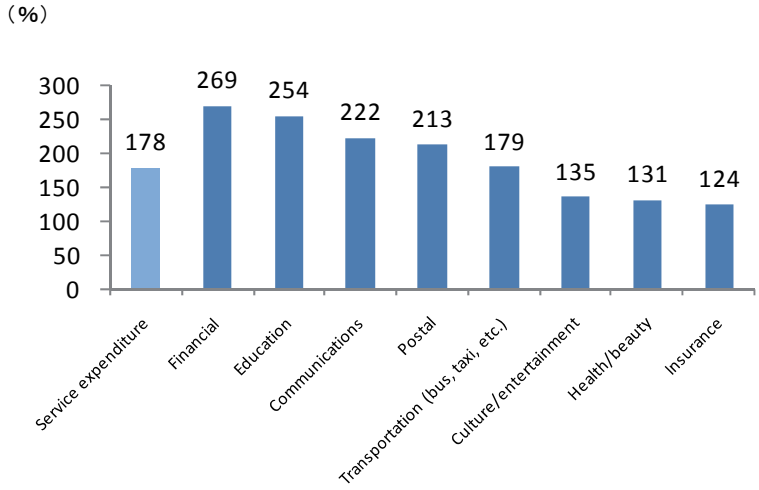
〔Source〕 Same as Figure Ⅲ—20

Figure III-21 Growth of service areas by expenditure in India （2008/2001）



〔Source〕Same as Figure Ⅲ—20

Figure Ⅲ-22 Growth of service areas by expenditure in ASEAN （2008/2001）



〔Note〕ASEAN 10。
〔Source〕Same as Figure Ⅲ—20

Figure III-23 Breakdown of possible/planned sectors for future overseas sales

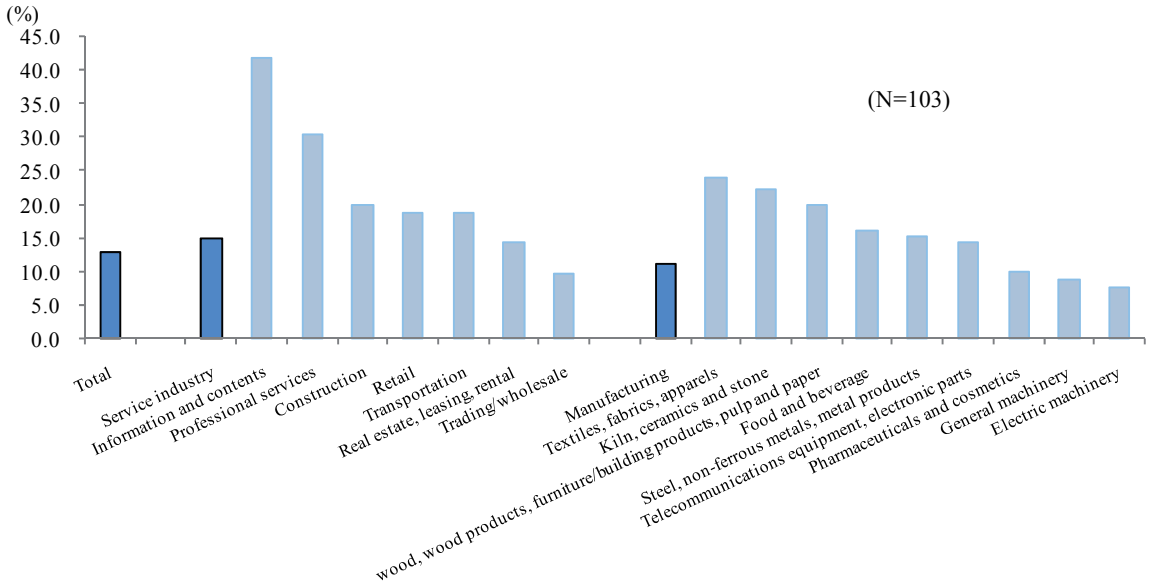
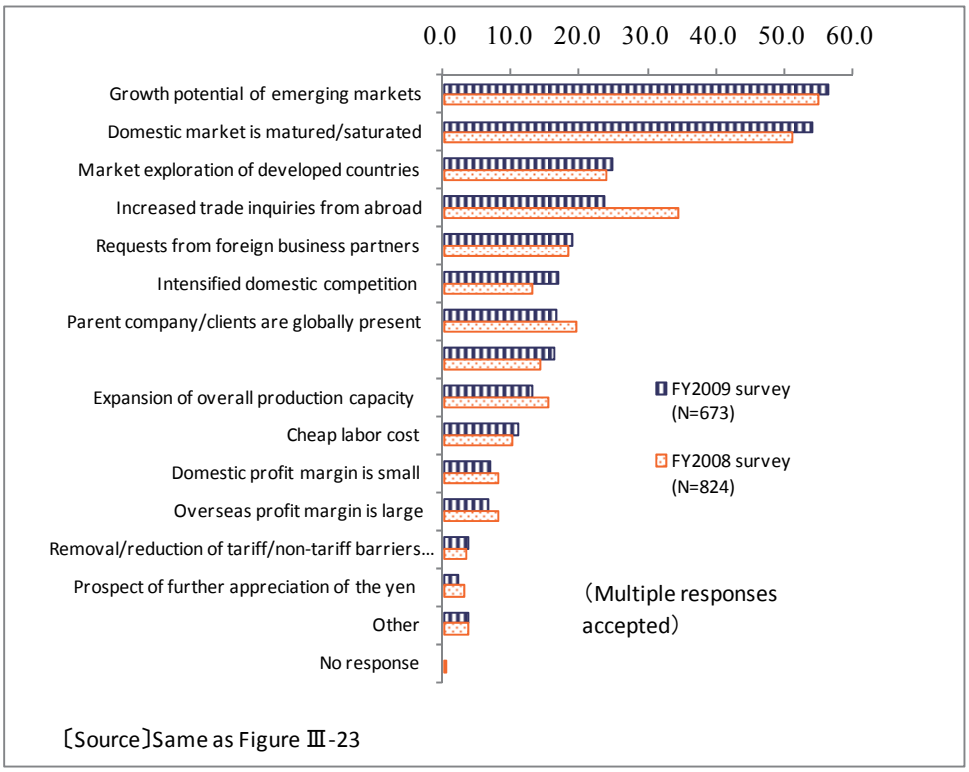


Figure Ⅲ-24 Reasons for active overseas expansion



〔Source〕Same as Figure Ⅲ-23

Figure III-25 Priority countries for the next three years

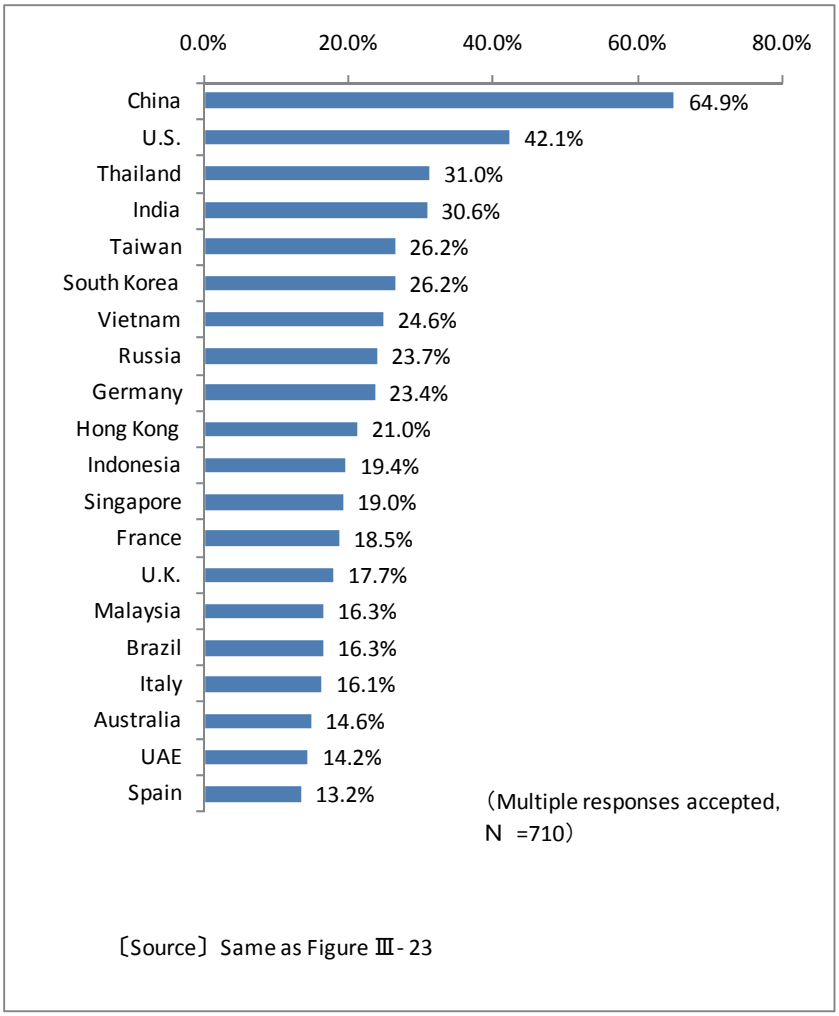
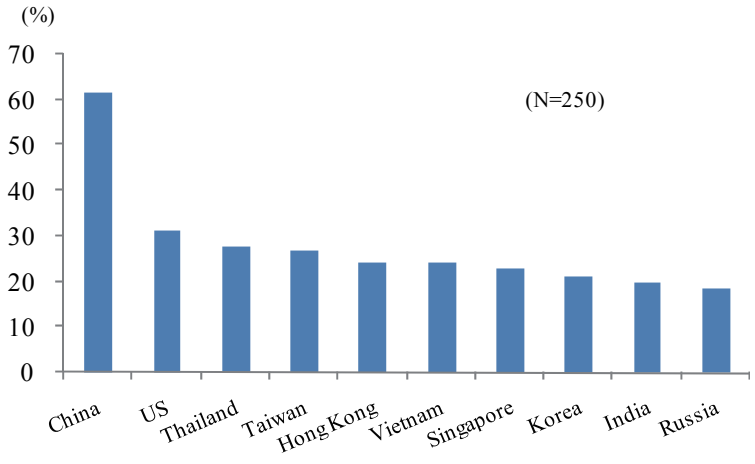
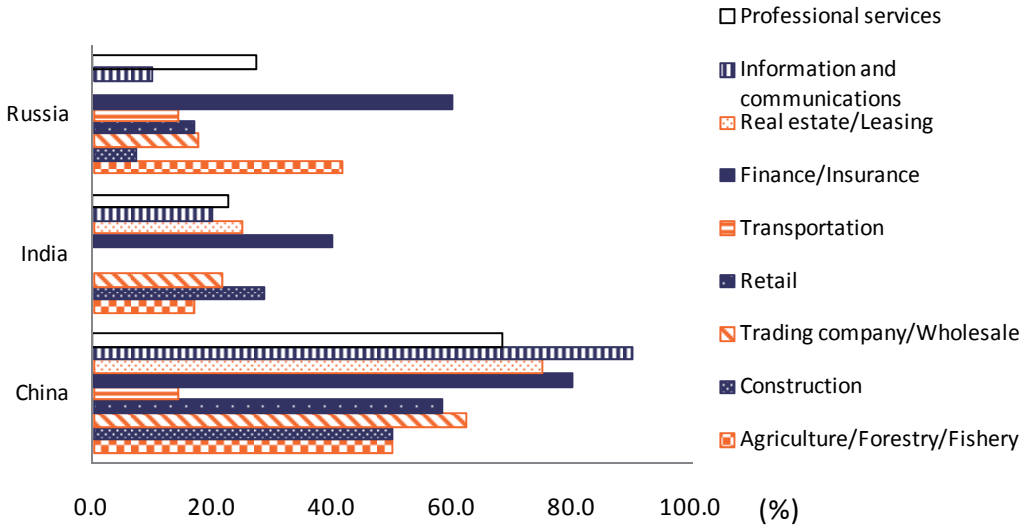


Figure III-26 Critical Markets for Sale of Services by Japanese Firms Over the Next 3 Years



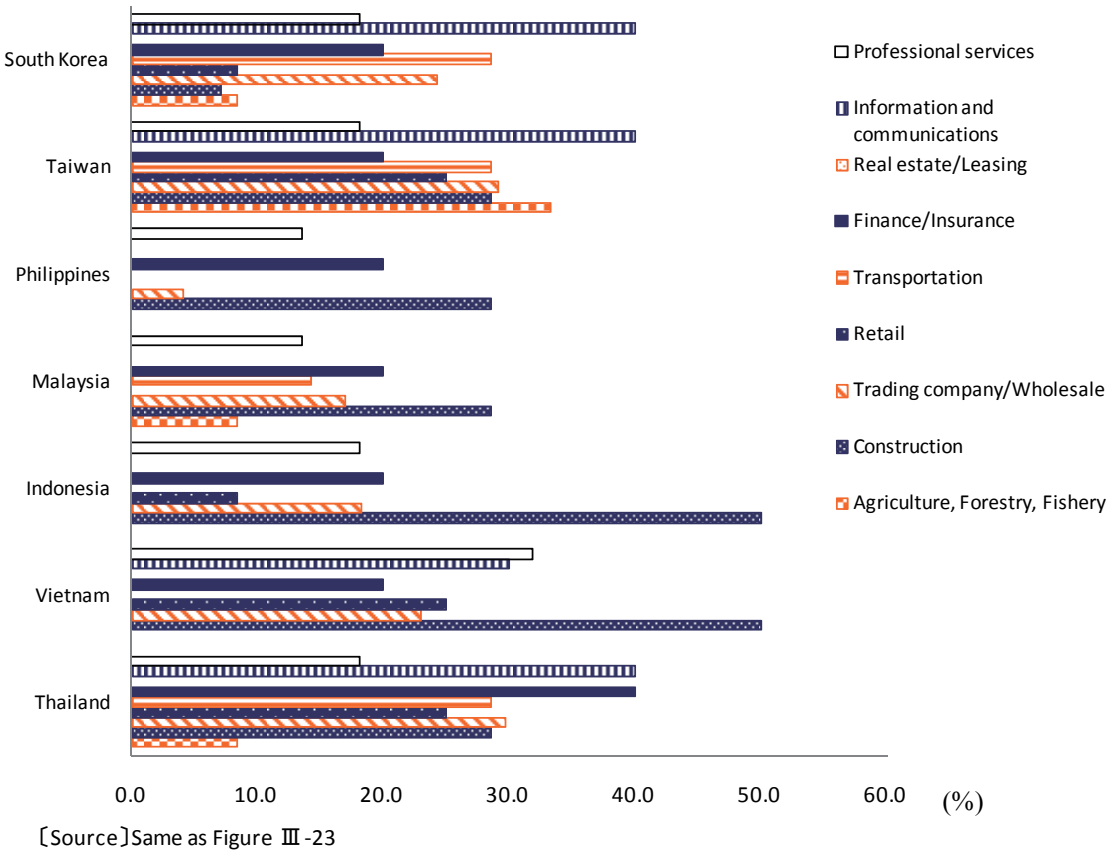
(Source) See Fig. 3-27.

Figure III-27 Business expansion of Japanese companies in BRICs for the next three years; by service area



〔Source〕Same as Figure Ⅲ-23

Figure Ⅲ-28 Business expansion of Japanese companies in Asia for the next three years; by service area



〔Source〕Same as Figure Ⅲ-23

Table III-16 Examples and Features of Entry into Asian Markets by Japanese Companies

Target Income Group and Price	Market Entrant	Company Features	Main Market Penetration
High-Income and Upper-Middle Segments, Relatively High Price Points	Kumon (learning centers)	Learning centers focusing on reading, writing and arithmetic. Instruction based on individual degree of advancement. Targets lower-and middle-income earners in some countries.	China, India, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam
	Benesse (infant and child education)	Education for infants and children. Correspondence courses including language, arithmetic, discipline and manners.	Hong Kong, South Korea, China
	Ito Yokado (general supermarkets)	Ample employee training to ensure gracious customer interaction. Quality fresh produce with a safe, reliable image. Chengdu (China) outlet typifies management by locally hired personnel and positive impression on the local community.	China
	Best Denki (household appliances)	Broad range of services, including repair, to achieve differentiation with local outlets. Knowledgeable employees provide service in line with customer wishes.	Hong Kong, Taiwan, Malaysia, Singapore, Indonesia
	Seven-Eleven Japan (convenience stores)	Japanese-style store management; aims to enhance brand image by stocking private brands in the future.	China
	UNIQLO (clothing manufacture and sales)	Broad product selection--marked by high quality, varied designs, colors and sizes--driving market expansion that appeals to a range of ages and incomes too.	China, Hong Kong, South Korea, Singapore
	Ryohin Keikaku (dry goods manufacture and sales)	High quality and good design enhancing the value of US and European brands and introducing them to the Asian market.	South Korea, Hong Kong, China, Thailand, Singapore
	Shiseido (cosmetics manufacture and sales)	Rigorous training for local hires to master selling techniques that appeal to customers; aims to establish an overwhelming presence in Asia.	China, Hong Kong, South Korea, Taiwan, Thailand, Singapore
	Yakult (beverage manufacture and sales)	Door-to-door sales by "Yakult ladies." Sales driven by salespeople's' knowledge of the products and health proposition.	China, Taiwan, Hong Kong, Thailand, Philippines, Singapore, Indonesia, Malaysia, Vietnam, India
	Ootoya (Japanese-food chain)	Provides Japanese food with a common touch. Attentive Japanese-style service. Safety and freshness are points of pride. Introduces everyday Japanese food to new markets.	Thailand, Taiwan, Hong Kong, Indonesia
	MOS Food Services (hamburger chain)	Well-established reputation for safety and for providing menu items, such as rice burgers, not found in American competitors' lineups.	Taiwan, Hong Kong, Singapore, Thailand, Indonesia
	Pepper Food Service (steak chain)	Fast-food steak restaurant. Customers grill their own food, a novel method of preparation for this market.	South Korea, Taiwan, China, Singapore, Malaysia, Indonesia, Philippines
	Contents (anime, manga, game software) production and sales company	Distributes contents such as anime, manga, game software, produced in Japan.	China, Hong Kong, Taiwan, etc.
	Construction and civil engineering company	Constructs factories and offices in emerging countries for mainly Japanese customers whose level of demand is high. Also engages in transportation infrastructure projects for governments in those regions.	China, India, Thailand, etc.
	Secom (security)	Leverages IT to provide online crime- and disaster-prevention systems throughout Asia.	Taiwan, South Korea, China, Thailand, Malaysia, Indonesia, Singapore, Vietnam
	Nippon Express (distribution)	Integrated distribution system for shipping and storage of domestic and international items, providing logistical support for retail business overseas.	China, Taiwan, South Korea, Hong Kong, Thailand, Philippines, Singapore, Indonesia, Malaysia, Vietnam, India
	Consulting company	Consulting for local governments in the area of environment friendly city development.	China, Taiwan, Korea, etc.
Middle-Income Segment, Local Pricing	ABC Mart (shoe sales)	Quick and sensitive service for rapid delivery of products matched to customers' desires.	South Korea, Thailand
	Daiso (uniform-price shop)	Developing franchise network through local companies. Differentiation through broad product selection and low, uniform pricing.	Singapore, Taiwan, Hong Kong, South Korea, Thailand, Indonesia, Philippines, Malaysia, Vietnam
	QB Net (low-priced hair salon chain)	Quick and easy haircuts. Rapidity and store cleanliness are the cornerstone of its differentiation strategy.	Singapore, Malaysia

(Sources) Prepared based on JETRO overseas office reports, company websites and media reports.

Table III-17 Potential Growth Sectors for Japanese Firms to Provide High-Value-Added/High-Quality Services to Middle-Class Customers in Asia

	Industry	Service Features
High-Income and Upper-Middle Segments (Already entered)	Study services	Use Japanese-style service expertise to providing effective learning programs and individual instruction to boost scientific knowledge and mathematical ability.
	Retail (electronics merchandise)	Transcend mere sales of reasonably-priced products by providing explanations of the features and method of use, backed up by sophisticated knowledge of the products. The Chinese appliance retailer Suning has already entered into a business and capital alliance to acquire these types of insights.
	Retail (supermarkets, convenience stores)	Careful explanations of the specifics of products and services, based on sophisticated familiarity with them. Leveraging IT allows for proper inventory management and placement of hot-selling items.
	Restaurant	Selling points include not only a clean, hygienic, secure and pleasant environment, but also the type of hospitality and customer service.
	Contents (anime, manga, game software, movie, music), Software	Elaborate and sophisticated anime, manga and game soft with realistic story line are popular among upper middle Asian. High overseas demand for high quality software catering to customer needs.
	Construction services (civil engineering, installment)	High-level technical expertise and skilled construction management combined with design and proposal work that is sensitive to customer wishes and meets customer needs.
	Security	Provide an attentive Japanese-style approach to security services using IT controlled efficient security system in multi-family developments such as apartments.
	Transport (logistics)	Support customer business by proposing optimal logistical services utilizing IT and know how.
Areas expected to expand	Transport (relocation, parcel delivery, taxi)	Relocation: careful wrapping and flexible rate structure to allow customer options. Parcel service: leverage IT to provide specific timeframes for package pick-up and delivery. Taxi: polite customer interaction, maintenance of a clean interior and use of GPS navigation system to delineate the optimal route.
	Finance (retail banking, auto loan, life insurance)	Win retail-customer trust through accurate transaction settlement , and detailed explanations of the high risk products at the point of sale. Polite service to win customer confidence is another sales point.
	Hair salons, beauty parlors, bridal services	Advanced hairstyling and beauty techniques based on a sophisticated fashion sense, and attentive service in a clean, well-maintained space combine to provide the customer a relaxing experience in a comfortable environment. "One-stop shopping" for the set-up of the bridal hall, execution and procession of the ceremony and arrangement of the entertainment.
	Human dispatch services	Introduce appropriate human resources to client company and provide measure for interviews to applicants. Business know how accumulated in Japan will be applied in Asia.
	Medical and welfare services	In light of aging society, medical, nursing services for senior persons, which Japan has advantage, are expected to enter into Asian market.

(Source) Compiled by JETRO.

IV. Global Strategy for Japanese Companies: Environment as a New Growth Engine (Conclusion)

Trends of the Global Economy, Trade, Direct Investment

■ **Dragging full-fledged recovery of the global economy**

It is now clear that the world economy is heading for a negative growth in 2009 for the first time since the World War II, reversing the year-on-year growth of 3.2% in 2008. The global economy, battered by the Lehman Brothers' collapse in the latter half of 2008, showed signs of recovery in the second quarter of 2009 after hitting the bottom in the first quarter. However, the economy will be on a slow upward path driven by emerging economies, instead of a rapid v-shaped recovery.

■ **World's total export volume reversed to a large negative growth**

The world trade in value (export base) recorded a double-digit growth of 14.9% in 2008 from the previous year. However, trade in volume grew by only 3.8%, signaling a further slowdown in growth rate, which had been halved (up 5.6%) in 2007. The growth of trade in volume in 2009 is expected to be negative, which is sure to surpass by far the decline of the world economy. Plummeting global trade is largely a result of a significant drop in the trade of motor vehicles, steel and electric appliances. Soon after the Lehman Shock, this tendency was marked in developed countries, but in 2009 the growth in the export volume in emerging economies started to slow down with a time lag. The world's cross-border M&As have drastically declined since the latter half of 2008, resulting in a full-year decline of 25%. The slowdown accelerated in the first half of 2009, with a decline of 65% over the previous year.

■ **Japanese economy further deepening the dependency on profits from abroad**

The total amount of Japan's overseas M&As recorded an all-time high in 2008 with about a 60% increase from the previous year, showing active developments while the world's M&As have been sluggish. Although a slowdown was inevitable in the first half of 2009, global strategies of Japanese companies using cross-border M&As are being penetrated. The percentage of overseas market revenue to operating profits of Japanese companies in FY2008 increased drastically to 53% from the previous year of 33%, of which the percentage from the Asia-Pacific region increased to 39% from the previous year of 12%. It had been said that one-third of operating profits of Japanese companies come from abroad, of which one-third is from Asia. This has changed in 2008, with 50% coming from abroad, of which 80% come from Asia-Pacific. According to the questionnaire survey on JETRO members, the companies identifying "expansion of overseas basis" or "new global expansion" as efforts against financial crisis account for 20%, demonstrating the enthusiasm of Japanese companies for global expansion even under a recession.

Outlook of WTO/FTA and Environmental Regulations

■ **WTO's restraining effect on protectionism and FTA's supplementary effect to be reviewed**

Due partly to the downturn of the global economy in the aftermath of financial crisis, some countries have adopted measures to restrict trade. Not only have the Buy American provisions of the United States increased tariffs on some products and introduced such schemes as technical regulations/import licensing, but emerging countries, such as Russia, Ukraine, India and Brazil have followed suit. The presence of the WTO should put the brakes on such movement of protectionism and the conclusion of the Doha Round is significant. Since raising tariffs up to bound rates does not constitute a violation under the WTO agreements, many emerging nations resorted to raising tariffs. On the other hand, the FTA

obliges signatories to reduce tariffs in a phased manner over a certain period of time to achieve zero tariffs in the end. In this sense, the significance of an FTA that supplements the WTO mechanisms is relatively increasing.

- **Entering the age of full-fledged FTA utilization with an establishment of ASEAN+1 in 2010**

In the Asia-Pacific region, the FTA network of ASEAN+1 is nearly complete, such as ASEAN-China and ASEAN-Japan. Japanese companies residing in ASEAN countries are able to conduct virtually tax-free trade in almost all goods with Japan, China, South Korea, India, Australia and New Zealand. In reality, a tax-free zone will be making progress in major FTAs in the Asia-Pacific region since 2010. The importance of this region for Japanese companies is increasingly shifted from production/export centers to sales centers. The utilization of an FTA is expected to further increase when a Japanese company sells products in the ASEAN region. The Asia-Pacific region is now entering the age of full-fledge utilization of FTAs.

- **Response to environmental regulations necessary for sustainable growth of companies and tariff reduction on environmentally friendly products**

Environmental awareness is increasing on a global scale. The European Union, the leader of environmental product regulation regime, is creating new rules one after another. In addition to the Directive on Waste Electrical and Electronic Equipment (WEEE/2005) and the Directive on Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS/2006), the EU began a full-scale process for the registration of chemical substances with the establishment of Registration, Evaluation, Authorization and Restriction of Chemicals (REACH/2007); and the EuP (Energy-using Products/2005) Directive implements measures by product and function, such as standby/off mode or lighting, etc. Japanese companies had difficulties in dealing with EU regulations in the past. The companies need to ensure and expand the market under the EuP framework by using energy conservation technologies in which Japan has an advantage. Since EU rules are increasingly adopted as international standards, it is important for Japanese companies to prepare for global expansion of environmental product regulations by sufficiently responding to those rules. Negotiations are underway at the Doha Round towards reduction/elimination of tariffs. It is desirable to conclude the Doha Round at the earliest possible time, which would lead to the expansion of the global environmental market.

Sales Strategy for Global Environmental Markets and Asian Service Markets

- **Renewable energy sector and low-carbon sector with high growth potential**

The global environmental market, according to BERR, is £3.46 trillion (¥605 trillion) in FY2007/2008, corresponding to about 10% of the world's GDP. Looking into the detail, while the traditional environmental sector, such as air pollution control, accounts for merely 20%, the renewable energy sector, such as photovoltaic (PV) power generation, accounts for 30%, and the low-carbon sector, such as electric vehicles, for 50%. The environmental sectors with high growth potential are renewable energy and low carbon. Wind power generation (particularly, offshore wind firms), PV generation and biomass generation are identified as good prospective markets for renewable energy, and biofuels, electric/hybrid vehicles, eco-housing, carbon capture and storage and energy-saving products are promising markets for the low-carbon sector. Further active investment and support are desirable in the future.

- **Necessary development of statistics on environmental industries and support for**

global expansion

According to the questionnaire survey conducted by JETRO, 40% of surveyed companies are engaged in or planning for sales of environmentally friendly products/services and 30% are engaged in or planning for exports. This has proved that Japanese companies are proactive about exporting environmentally friendly products. However, the percentage of companies engaged in or planning for production/sales by setting up production/sales centers abroad is limited to a little more than 10%. The overseas production ratio of Japanese companies as a whole is 19%, showing that overseas production/sales are not well developed despite the fact that Japan has authority in environmental business. This seems to be attributable to the fact that the business cost is high because the environmental market has yet to be developed and that the market includes immature industries. It may also be because companies tend to produce domestically and export products in which they have technological superiority (product cycle theory) since there are many technology- and capital-intensive industries in the renewable energy sector and low-carbon sector. However, in the wake of the financial crisis, many countries are making efforts to improve their competitiveness in the environmental industry. In order to expand the share in the overseas environmental market where competition will be intense, Japanese corporations need to contrive a global business strategy that includes overseas production, in addition to focusing on exports.

It is necessary to accurately grasp the environmental market trends of each country of the world in order to support global expansion in the environmental business. In other words, it is essential to develop environmental business statistics to allow us to understand, at a glance, which country and which sector are growing (standardization by Japan). It is then necessary to establish an evaluation mechanism for Japan's environmental technologies, production development capacity and service provision capacity by sector and to reflect the evaluation results in policies. Furthermore, active efforts are needed in the collection/provision of information pertaining to environment markets in each country, holding of symposiums, participation in trade fairs, support for exports, support for global expansion, and support for business matching. In the environmental sectors, such as PV generation, wind generation, biofuels, electric vehicles, eco-housing, waste treatment and wastewater treatment, measures of the central/local governments are directly and sensitively connected with the success of business.

■ **Expanding value-added Japanese services at a low cost in Asia**

The growth rate of the amount of services sold in emerging countries is higher than that of products sold in recent years. The growth rate of service expenditures in BRICs and ASEAN 5 during the period between 2001 and 2008 reached 150%–200%, growing two to three times faster than the United States and Germany. Japanese companies also pay a great deal of attention to the growth of the service sector in emerging economies. According to the questionnaire, service companies without a history of overseas sales in the past have shown enthusiasm about active overseas sales much more than manufacturing industries have. Asian countries are identified as the priority countries for sales designations, led by China, followed by Thailand, Taiwan, Hong Kong and Vietnam. Among the service industries, many companies have shown enthusiasm about sales for information/communications, construction, and finance/insurance (Thailand, India and Russia). Amidst this tendency, demand is increasing for Japan's high quality/value-added services. More people in other countries have accepted the sales strategy of Japanese electronics retail stores, which combine a product and product knowledge, and provision of fine Japanese-style services offered by restaurants, supermarkets, and convenience stores. In order to disseminate such value-added/high quality services of Japan into low-price-oriented Asian markets affected by financial crisis, a

business model for low-cost service provision is required.

In other words, just like household appliances, in order to be accepted by the middle class, which is expanding in Asian emerging economies, a system needs to be created to provide Japanese-style services at a low cost (bi-polar strategy of valued-added services and services for the middle class). To that end, sufficient education/training for and utilization of local staff seem essential.

Statistical Appendix

Annotation I: Product Category Definitions

1 Products

Product name	HS
Total	00 - 99
Machinery and equipment	84 - 91
General equipment	84
Air conditioners	8415
Mining and construction equipment	8429 - 8430, 8431.42 - 8431.43, 8474, 8479.10
Machine tools	8456 - 8461
Electrical equipment	85
Transport equipment	86 - 89
Automobiles	8702 - 8705
Passenger vehicles	8703
Motorcycles	8711
Automotive parts	8707 - 8708, 8407.31 - 8407.34
Precision instruments	90 - 91
Chemicals	28 - 40
Industrial chemicals	28 - 38
Pharmaceuticals and medical supplies	30
Plastics and rubber	39 - 40
Foodstuffs	1 - 11, 16 - 24
Seafood	03
Grains	10
Wheat	1001
Corn	1005
Rice	1006
Processed food products	16 - 24
Oils, fats, and other animal and vegetable products	12 - 15
Miscellaneous manufactured goods	64 - 67, 92 - 97
Other raw materials and products	25 - 27, 41 - 63, 68 - 83
Iron ore	2601
Mineral fuels etc.	27
Mineral fuels	2701 - 2705, 2708 - 2713, 2715
Coal	2701
LNG	2711.11
Petroleum and petroleum products	2708 - 2710, 2712 - 2713, 2715
Crude oil	2709
Textiles and textile products	50 - 63
Synthetic fibers and textiles	54 - 55
Clothing	61 - 62
Base metals and base metal products	72 - 83
Steel	72 - 73
Primary steel products	72
Steel products	73
Copper	7403
Nickel	7502
Aluminum	7601
Lead	7801

2 IT Products

Product name	HS
(1) Computers and peripherals (total)	8443.31, 8471, 8473
Multifunctional digital equipment	8443.31
Computers and peripherals	8471
Parts of computer and peripherals	8473
(2) Office equipment	8469, 8470, 9009
(3) Telecommunications equipment	8517, 8525.10, 8525.20, 8526
(4) Semiconductors and electronic components	8540 - 8542
Electronic tubes and semiconductors	8540 - 8541
Integrated circuits	8542
(5) Other electronic components	8504, 8518, 8522, 8523, 8529, 8532 - 8536
Flat-panel displays	8529.90
(6) Video equipment	8521, 8525.30, 8525.40, 8525.80, 8528, 9006
Digital cameras	8525.80
Reception apparatus for television	8528.71, 8528.72
(7) Audio equipment	8519 - 8520
Portable audio players	8519.81
(8) Measuring and testing equipment	8543, 9014 - 9015, 9024 - 9027, 9030 - 9032
(9) Machines and apparatus for the manufacture of semiconductor devices	8486
IT parts	8473, 8486.90, (4), (5)
Finished IT products	8443.31, 8471, 8486.10, 8486.20, 8486.30, 8486.40, (2), (3), (6), (7), (8)
Total IT equipment	IT parts + Finished IT products

Annotation II: Estimates of world trade value in 2008

The value of world trade in 2008 was estimated based on 53 economies' trade statistics available as of June 2009 and then by obtaining a grand total of the following three categories. The trade value by products is the aggregation of (1) and (2).

(1) The total export (import) value of the 53 economies.
(2) For economies, for which statistics were not available (mainly emerging and developing economies, approximately 120 in number), the value of imports from those economies was extracted from the statistics (CIF basis) of the 53 economies and converted to FOB basis figures (for imports by those areas, the export values [FOB basis] were converted to CIF basis figures).
(3) For trade among economies, for which statistics were not available, data was extracted from *Direction of Trade Statistics* (June 2009, IMF).

The 53 economies:
Japan, US, Canada, Mexico, Costa Rica, Panama, Venezuela, Colombia, Peru, Chile, Argentina, Brazil, China, Hong Kong, Taiwan, South Korea, Singapore, Thailand, Malaysia, Indonesia, Philippines, Vietnam, India, Australia, New Zealand, UK, Germany, France, Italy, Spain, Netherlands, Belgium, Denmark, Sweden, Finland, Switzerland, Austria, Poland, Czech Republic, Hungary, Romania, Greece, Ireland, Lithuania, Luxemburg, Norway, Portugal, Slovakia, Slovenia, Russia, Ukraine, Turkey, and South Africa.

Annotation III: Estimates of global direct investment value in 2008

Global inward direct investment in 2008 was estimated as described below.

(1) Figures were collected for the following 93 countries and regions for which 2008 data were available.
   i) For the following 51 countries and regions, each country or region's international balance of payments statistics were used: the United States, Canada, Australia, New Zealand, the United Kingdom, Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Portugal, Luxemburg, the Netherlands, Spain, Denmark, Sweden, Cyprus, the Czech Republic, Estonia, Slovakia, Slovenia, Hungary, Latvia, Lithuania, Malta, Poland, Bulgaria, Norway, Switzerland, China, Taiwan, Hong Kong, South Korea (ROK), Malaysia, the Philippines, Singapore, Thailand, India, Brazil, Chile, Colombia, Mexico, Venezuela, Russia, Israel, Turkey, Iceland, and Egypt. For countries that released two types of statistical values, i.e., one including transactions via special purpose enterprises (SPEs) and the other not including such transactions, the former was used. Data valued in local currencies were converted to US dollars using the IMF's annual average rate.
   ii) For Japan, the balance of payments statistics released by the Bank of Japan were converted to US dollars at the average Bank of Japan interbank rate during the term.
   iii) For the following 16 countries, data from the IMF's *Balance of Payments Statistics* (BOPS, June 2009) were used: Azerbaijan, Belize, Bosnia and Herzegovina, Croatia, Georgia, Indonesia, Kazakhstan, Moldova, Panama, South Africa, Uganda, Ukraine, Belarus, Mozambique, Romania, and Argentina.
   iv) For the following 25 countries and regions, data from the Economic Commission

for Latin America and the Caribbean (ECLAC) were used: Anguilla (a British overseas territory), Antigua and Barbuda, Uruguay, Peru, El Salvador, Trinidad and Tobago, Honduras, the Bahamas, Guatemala, Nicaragua, Ecuador, Bolivia, Costa Rica, the Dominican Republic, Guyana, Grenada, Jamaica, Suriname, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Saint Lucia, Dominica, Haiti, Paraguay, and Montserrat (a British overseas territory).

(2) For 59 developing countries and regions, for which data for 2008 were not available, but those for 2007 were listed in the BOPS (June 2009), 2007 data from the BOPS were used as data for estimation purposes.

(3) As a result of the above steps, 2008 data on inward direct investment values were available for the following countries and regions: 31 developed countries and regions (corresponding to the IMF's classification of Advanced Economies: the United States, Canada, Australia, Japan, New Zealand, EU15, Iceland, Norway, Switzerland, Cyprus, Malta, Slovenia, Israel, South Korea, Singapore, Hong Kong, and Taiwan; for an aggregate sum of US$1.1837 trillion), and 62 developing countries and regions (countries other than the 31 developed countries and regions; for an aggregate sum of US$594.3 billion). The aggregate sum for the 62 countries and regions in 2007 accounted for 91.3% of the aggregate sum for 121 developing countries, for which data for 2007 were available.

(4) The aggregate sum for the 31 developed countries and regions was used as the inward direct investment value for developed countries in 2008, and that for the 62 developing countries and regions was divided by the percentage of 91.3% for 2007 to obtain an estimated 100% value, which was used as the direct investment value for developing countries in 2008. The aggregate sum for developed and developing countries was used as the total global inward direct investment value.

Incidentally, the same method was used for the outward FDI value: From the 31 developed countries and regions, for which 2008 data were available (a sum of US$1.9196 trillion) and 38 developing countries, for which 2008 data were also available (US$242.2 billion, with the 2007 aggregate sum for the 38 countries accounting for 91.0% of the aggregate sum for the 81 countries and regions, for which the data for 2007 were available), the sum was estimated for developed countries, developing countries, and the world total, respectively.

Table 1 GDP growth rate and contribution rate by country and region

(Unit: %)

	2005		2006		2007		2008	
	Growth rate	Contribution	Growth rate	Contribution	Growth rate	Contribution	Growth rate	Contribution
US	2.9	0.7	2.8	0.6	2.0	0.4	1.1	0.2
EU27	2.2	0.5	3.4	0.8	3.1	0.7	1.1	0.3
Japan	1.9	0.1	2.0	0.1	2.4	0.2	-0.6	0.0
East Asia	8.1	1.3	9.1	1.5	10.1	1.8	6.6	1.2
China	10.4	0.9	11.6	1.1	13.0	1.3	9.0	1.0
South Korea	4.0	0.1	5.2	0.1	5.1	0.1	2.2	0.0
ASEAN10	5.9	0.2	6.2	0.2	6.6	0.3	4.5	0.2
Thailand	4.6	0.0	5.2	0.0	4.9	0.0	2.6	0.0
Singapore	7.3	0.0	8.4	0.0	7.8	0.0	1.1	0.0
Malaysia	5.3	0.0	5.8	0.0	6.3	0.0	4.6	0.0
Vietnam	8.4	0.0	8.2	0.0	8.5	0.0	6.2	0.0
India	9.2	0.4	9.8	0.4	9.3	0.4	7.3	0.3
Australia	2.8	0.0	2.8	0.0	4.0	0.0	2.1	0.0
New Zealand	2.8	0.0	1.9	0.0	3.2	0.0	0.3	0.0
Central and South	4.7	0.4	5.7	0.5	5.7	0.5	4.2	0.4
Brazil	3.2	0.1	4.0	0.1	5.7	0.2	5.1	0.1
Central and Eastern	6.0	0.2	6.6	0.2	5.4	0.2	2.9	0.1
Russia	6.4	0.2	7.7	0.2	8.1	0.3	5.6	0.2
Middle East	5.8	0.2	5.7	0.2	6.3	0.2	5.9	0.2
Africa	5.8	0.2	6.1	0.2	6.2	0.2	5.2	0.2
World	4.5	4.5	5.1	5.1	5.2	5.2	3.2	3.2
For reference:								
Developed countries	2.6	1.6	3.0	1.8	2.7	1.6	0.9	0.5
Developing countries	7.1	2.9	8.0	3.3	8.3	3.5	6.1	2.7
Asia Pacific	6.5	1.8	7.3	2.0	8.1	2.3	5.2	1.5
ASEAN +3	6.3	1.4	7.1	1.6	8.1	1.8	5.0	1.2
BRICs including South Africa	8.3	1.6	9.4	1.9	10.3	2.2	7.5	1.7
BRICs not including South Africa	8.4	1.6	9.5	1.9	10.5	2.1	7.6	1.6

(Notes) (1) The world growth rate was calculated by the IMF using purchasing power parity weighting.
(2) Each country or region's contribution rate was calculated using 2008 prices and purchasing power parity weighting.
(3) East Asia includes the ASEAN10, China, the ROK (South Korea), Hong Kong, and Taiwan. Asia Pacific includes ASEAN+6.
(4) Figures may differ from those found elsewhere due to revisions, differences in source data, and other factors.
(5) Developed and developing countries are as defined in the WEO (IMF).
(Source) Based on WEO (IMF) data.

Table 2 World Export Matrix (2008)

(Unit: US$ million)

		World	NAFTA		EU27	Japan	East Asia	ASEAN+6	ASEAN+3			APEC
				US						China	ASEAN	
World		16,490,225	2,730,572	2,055,361	6,165,445	709,192	3,195,488	3,652,474	3,222,909	1,160,963	953,616	7,211,203
	NAFTA	2,052,963	988,439	553,758	328,026	80,478	247,000	328,842	278,005	84,496	73,857	1,377,401
	US	1,323,884	412,453	-	275,290	66,579	219,742	284,688	240,994	71,457	68,151	751,301
	EU27	5,930,873	438,303	367,340	3,972,403	62,398	284,093	385,462	297,704	115,573	81,838	991,442
	Japan	825,005	159,754	139,022	110,460	-	370,287	315,860	288,136	125,039	103,656	569,842
	East Asia	3,608,665	575,999	499,906	545,522	286,009	1,461,543	1,537,769	1,370,905	466,984	489,072	2,461,673
	ASEAN + 6	4,236,032	700,461	606,108	647,183	303,863	1,600,775	1,664,022	1,459,729	391,474	570,611	2,793,814
	ASEAN + 3	3,822,258	656,563	568,238	583,971	255,304	1,470,653	1,477,037	1,301,192	341,839	531,264	2,549,573
	China	1,512,361	313,300	273,129	302,286	120,546	420,904	370,706	311,418	-	115,660	920,190
	ASEAN	1,055,582	124,030	110,793	118,641	107,964	496,877	594,643	519,698	110,176	263,426	771,425
	APEC	7,276,859	1,774,718	1,232,541	1,282,836	430,828	2,215,467	2,404,463	2,121,714	741,238	691,475	4,685,304

(Notes) (1) Exports from each economy to Taiwan were converted to FOB figures by multiplying 0.9 by Taiwan's CIF imports.
(2) East Asia consists of China, South Korea, Hong Kong, Taiwan, and ASEAN.
(3) ASEAN + 6 includes ASEAN, Japan, China, South Korea, India, Australia, and New Zealand.
(4) ASEAN + 3 includes ASEAN, Japan, China, and South Korea.
(5) APEC includes Japan, Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, the Philippines, Russia, Singapore, Taiwan, Thailand, US, and Vietnam (21 economies in total).
(Sources) Prepared based on *Direction of Trade Statistics* (IMF) and Taiwan's trade statistics.

Table 3 World Trade by Country and Region

(Unit: US$ million, %)

	Exports						Imports					
	2006		2007		2008		2006		2007		2008	
	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate
North America	1,424,932	12.5	1,583,125	11.1	1,744,016	10.2	2,448,828	10.9	2,597,051	6.1	2,791,097	7.5
US	1,036,635	14.4	1,162,479	12.1	1,287,442	10.7	2,059,932	10.8	2,174,402	5.6	2,337,379	7.5
Canada	388,297	7.6	420,646	8.3	456,574	8.5	388,896	11.2	422,649	8.7	453,719	7.4
Europe	5,196,553	13.6	6,069,587	16.8	6,848,693	12.8	5,204,648	15.2	6,167,280	18.5	6,997,510	13.5
EU15	4,164,918	11.9	4,801,884	15.3	5,284,156	10.0	4,206,767	13.2	4,883,816	16.1	5,422,378	11.0
Germany	1,109,183	14.4	1,322,465	19.2	1,464,715	10.8	907,678	17.0	1,056,059	16.3	1,204,290	14.0
Netherlands	464,000	14.3	551,789	18.9	633,650	14.8	417,213	14.9	493,402	18.3	573,639	16.3
France	495,875	7.1	552,306	11.4	606,814	9.9	541,964	7.6	620,278	14.5	706,558	13.9
Italy	417,329	12.0	500,354	19.9	539,591	7.8	442,719	15.1	511,976	15.6	556,190	8.6
UK	447,163	13.5	444,205	-0.7	483,567	8.9	566,086	12.7	636,059	12.4	669,499	5.3
Belgium	367,039	9.8	432,364	17.8	476,978	10.3	352,017	10.5	413,666	17.5	470,446	13.7
Spain	213,765	11.0	253,444	18.6	268,982	6.1	328,906	14.0	389,748	18.5	402,972	3.4
Sweden	147,911	13.6	169,079	14.3	183,979	8.8	127,724	14.7	152,812	19.6	167,659	9.7
Austria	136,902	9.5	163,840	19.7	181,385	10.7	137,356	8.0	163,282	18.9	183,663	12.5
Ireland	108,800	-0.7	121,527	11.7	124,046	2.1	73,163	6.8	83,922	14.7	83,383	-0.6
Denmark	92,636	9.0	102,821	11.0	116,928	13.7	85,580	13.4	98,666	15.3	110,918	12.4
Finland	77,308	17.2	90,110	16.6	96,817	7.4	69,467	17.9	81,774	17.7	92,089	12.6
Portugal	43,365	13.7	51,532	18.8	56,068	8.8	66,703	9.1	78,345	17.5	90,214	15.1
Luxemburg	22,860	22.1	22,435	-1.9	25,374	13.1	26,554	21.7	27,553	3.8	31,609	14.7
Greece	20,783	21.0	23,613	13.6	25,262	7.0	63,638	17.7	76,272	19.9	79,249	3.9
Poland	110,925	24.3	140,446	26.6	168,728	20.1	127,240	25.5	166,176	30.6	204,953	23.3
Czech Republic	95,053	21.9	122,777	29.2	146,733	19.5	93,352	22.3	118,481	26.9	141,671	19.6
Hungary	75,390	20.0	95,593	26.8	107,993	13.0	78,386	18.0	95,735	22.1	108,217	13.0
Slovakia	41,968	31.4	58,336	39.0	71,028	21.8	44,949	27.4	60,424	34.4	73,425	21.5
Romania	32,487	17.5	40,568	24.9	49,550	22.1	51,341	27.3	70,568	37.4	82,971	17.6
Slovenia	23,259	21.1	30,144	29.6	34,211	13.5	24,186	19.2	31,632	30.8	37,060	17.2
Lithuania	14,157	20.4	17,173	21.3	23,725	38.2	19,418	25.4	24,461	26.0	31,086	27.1
Switzerland	147,884	13.1	172,122	16.4	200,336	16.4	141,468	11.9	161,288	14.0	183,200	13.6
Norway	122,123	17.7	136,468	11.7	164,146	20.3	64,278	15.9	80,336	25.0	87,691	9.2
Asia	3,400,432	17.0	3,940,057	15.9	4,444,780	12.8	3,121,325	15.8	3,584,078	14.8	4,274,278	19.3
Japan	647,290	8.2	712,735	10.1	775,918	8.9	579,294	11.7	621,084	7.2	756,086	21.7
East Asia	2,581,499	19.1	3,025,784	17.2	3,429,242	13.3	2,295,232	16.2	2,656,976	15.8	3,123,827	17.6
China	969,324	27.2	1,218,155	25.7	1,428,869	17.3	791,794	19.9	956,261	20.8	1,131,469	18.3
South Korea	325,465	14.4	371,489	14.1	422,007	13.6	309,383	18.4	356,846	15.3	435,275	22.0
Hong Kong	322,664	10.4	349,663	8.4	370,654	6.0	335,753	11.7	370,733	10.4	393,443	6.1
Taiwan	213,004	12.7	234,710	10.2	243,233	3.6	202,038	11.2	218,648	8.2	239,666	9.6
ASEAN	751,043	17.4	851,766	13.4	964,478	13.2	656,264	14.9	754,488	15.0	923,974	22.5
Singapore	271,916	18.4	299,404	10.1	338,143	12.9	238,900	19.4	263,247	10.2	319,748	21.5
Malaysia	160,845	14.1	176,311	9.6	199,759	13.3	131,223	14.5	147,065	12.1	157,086	6.8
Thailand	130,621	18.9	163,119	24.9	177,846	9.0	128,652	8.9	151,703	17.9	180,583	19.0
Indonesia	100,799	17.7	114,101	13.2	137,020	20.1	61,065	5.8	74,473	22.0	129,197	73.5
Vietnam	39,826	22.7	48,561	21.9	62,685	29.1	44,891	22.1	62,682	39.6	80,714	28.8
Philippines	47,037	14.7	50,270	6.9	49,025	-2.5	51,533	17.0	55,317	7.3	56,646	2.4
India	121,259	21.7	147,564	21.7	178,034	20.6	172,876	24.9	217,543	25.8	292,848	34.6
Oceania	153,885	14.3	178,460	16.0	227,602	27.5	188,791	9.6	225,737	19.6	271,800	20.4
Australia	123,478	16.6	141,379	14.5	186,560	32.0	147,532	11.9	175,474	18.9	212,080	20.9
New Zealand	22,449	3.3	26,958	20.1	30,571	13.4	27,543	1.0	32,314	17.3	35,916	11.1
South and Central America	674,745	18.2	757,412	12.3	883,565	16.7	661,617	19.3	781,408	18.1	947,841	21.3
Mexico	249,997	16.7	271,958	8.8	292,666	7.6	284,589	15.5	313,379	10.1	343,165	9.5
Brazil	137,470	16.2	160,649	16.9	197,942	23.2	101,551	24.3	134,023	32.0	192,441	43.6
Argentina	46,546	15.3	55,780	19.8	70,132	25.7	34,154	19.1	44,707	30.9	57,413	28.4
Chile	55,884	44.8	65,788	17.7	69,580	5.8	34,750	16.7	42,714	22.9	56,475	32.2
Colombia	23,730	12.5	29,076	22.5	37,131	27.7	25,468	20.5	32,587	28.0	39,118	20.0
Peru	23,431	37.8	27,588	17.7	31,208	13.1	15,327	22.6	20,464	33.5	29,982	46.5
Costa Rica	8,453	18.2	9,569	13.2	9,745	1.8	12,740	38.9	14,095	10.6	15,289	8.5
Panama	985	3.1	1,079	9.6	1,125	4.3	4,657	13.3	6,729	44.5	8,896	32.2
Russia, CIS	317,337	23.4	395,970	24.8	533,483	34.7	230,362	35.4	328,140	42.4	446,805	36.2
Russia	226,524	22.5	279,724	23.5	367,573	31.4	128,151	40.1	189,619	48.0	255,574	34.8
Ukraine	38,368	11.9	49,248	28.4	67,003	36.1	45,035	24.6	60,670	34.7	85,535	41.0
Middle East	569,494	25.4	642,902	12.9	901,938	40.3	471,740	15.6	587,965	24.6	727,326	23.7
Turkey	85,602	16.6	107,389	25.5	131,934	22.9	139,779	19.9	170,399	21.9	201,706	18.4
Africa	323,477	22.5	374,307	15.7	488,602	30.5	285,106	16.8	357,750	25.5	451,070	26.1
South Africa	57,898	11.6	69,868	20.7	80,208	14.8	75,730	23.9	88,804	17.3	101,176	13.9

(Notes) (1) Estimated for regions other than North America. See statistical appendix for the estimating method.
(2) ASEAN includes the following six countries: Singapore, Thailand, Malaysia, Indonesia, the Philippines, and Vietnam.
(3) East Asia includes the following 10 economies: China, South Korea, Hong Kong, Taiwan, and the six ASEAN countries.

(Sources) Prepared based on statistics from individual economies.

Table 4 World Exports by Product (2008)

(Unit: US$ million, %)

	World		US		EU15		Japan		China		ASEAN4		Asia NIEs	
	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate
Total	15,890,769	14.9	1,287,442	10.7	5,284,156	10.0	775,918	8.9	1,428,869	17.3	563,651	11.9	1,374,037	9.5
Machinery and equipment	6,024,840	7.3	615,076	1.9	2,182,969	6.2	521,411	7.1	727,791	16.7	209,003	2.2	807,883	5.7
General equipment	1,977,994	8.6	212,848	7.0	822,512	7.3	151,482	8.8	268,740	17.5	75,136	0.5	176,437	5.5
Electrical equipment	1,922,179	6.0	153,210	3.1	466,554	5.0	138,650	2.7	342,082	13.9	96,986	-1.3	442,169	2.0
Transport equipment	1,647,130	6.3	177,669	-6.1	728,025	4.9	195,966	9.4	70,841	28.6	27,684	20.1	111,911	18.8
Automobiles	781,551	2.6	66,504	9.6	361,210	-0.5	131,301	8.5	9,408	26.7	12,503	25.9	37,368	-4.5
Passenger vehicles	632,596	1.8	50,694	13.0	294,741	-2.7	115,439	6.7	2,993	6.4	6,816	30.7	33,480	-7.7
Motorcycles	22,738	10.0	1,630	16.0	7,833	10.6	5,797	-7.7	4,810	25.8	782	60.6	813	-2.7
Automotive parts	334,458	2.3	37,239	-8.2	142,425	1.6	33,176	4.2	16,059	19.8	8,350	16.5	18,631	10.7
Precision instruments	477,145	10.4	71,348	6.3	165,878	9.4	35,313	5.3	46,128	17.0	9,197	8.6	77,366	11.9
Chemicals	2,008,634	12.9	205,272	11.9	985,664	10.6	88,224	6.6	110,058	25.5	66,017	13.5	142,651	5.9
Industrial chemicals	1,376,563	15.3	142,387	14.2	715,200	12.2	52,650	4.7	68,906	34.8	23,392	14.0	72,854	4.7
Pharmaceuticals and medical supplies	401,345	16.2	34,212	17.0	271,663	13.6	2,981	21.0	2,881	40.1	649	7.1	6,511	-9.3
Plastics and rubber	632,071	7.9	62,886	7.1	270,464	6.4	35,574	9.5	41,153	12.6	42,624	13.3	69,797	7.2
Foodstuffs	970,926	17.0	92,209	23.6	433,221	14.3	3,967	10.1	35,703	7.4	39,504	23.6	17,075	20.1
Seafood	72,053	4.5	3,803	-1.7	18,689	4.2	1,150	-0.9	5,187	8.9	5,552	6.0	3,194	18.1
Grains	98,101	40.7	28,906	37.0	19,809	44.2	20	97.1	673	-65.6	6,477	66.1	60	66.9
Wheat	43,150	47.4	11,301	35.6	10,831	62.5	0	422.8	31	-93.7	19	13.8	0	-68.7
Corn	26,807	32.2	13,862	37.1	3,273	41.5	0	19.9	73	-91.5	249	90.8	0	4.8
Rice	16,682	41.2	2,206	58.8	1,785	38.4	20	97.2	482	0.1	6,190	65.8	58	69.3
Processed food products	424,219	15.3	28,427	16.7	214,799	12.8	2,323	13.8	18,218	10.5	20,867	21.6	9,599	17.2
Oils, fats, and other animal and vegetable products	156,701	45.1	23,860	48.0	35,196	35.5	294	13.7	3,148	42.2	34,135	50.7	1,461	33.5
Miscellaneous manufactured goods	448,057	10.6	31,544	8.4	154,207	8.0	8,168	5.0	120,430	19.3	12,640	3.3	35,661	6.9
Iron ore	68,793	63.4	1,245	73.1	4,520	47.3	0	-22.9	2	-77.4	226	21.9	1	-43.1
Mineral fuels etc.	2,682,668	44.3	76,940	82.1	381,260	40.2	18,707	101.2	31,402	57.7	88,952	41.4	120,309	49.7
Mineral fuels	2,562,004	44.4	73,444	85.3	318,646	37.9	17,801	107.0	30,107	61.1	88,354	42.8	119,038	50.4
Coal	96,558	77.4	7,966	91.9	5,004	46.4	2	62.6	5,238	58.9	10,578	57.0	6	376.2
LNG	90,908	56.0	322	143.0	1,028	421.2	0	-29.5	0	-91.2	25,115	44.4	0	150.0
Petroleum and petroleum	2,166,633	43.4	58,711	91.8	281,378	36.3	17,344	111.0	18,041	53.1	50,458	41.9	118,141	50.8
Crude oil	1,418,581	43.1	2,296	106.0	59,642	28.2	0	2,148.4	2,749	66.1	27,626	35.5	53	-15.3
Textiles and textile products	640,902	3.5	22,575	2.2	174,052	4.6	8,767	3.9	179,292	8.1	22,021	0.2	65,286	-4.6
Synthetic fibers and textiles	73,743	-1.1	3,852	2.9	21,161	-4.1	3,910	3.1	15,647	10.5	5,362	-3.8	11,517	-7.4
Clothing	360,873	4.6	3,681	1.7	94,882	9.8	416	13.8	113,021	4.0	12,320	1.4	30,521	-4.0
Base metals and base metal products	1,343,078	11.5	74,814	17.8	505,668	7.7	71,518	19.6	143,808	24.4	30,868	8.2	91,600	9.3
Steel	828,907	21.7	41,553	29.7	322,635	12.9	53,049	25.7	101,838	32.8	14,404	16.4	58,720	18.2
Copper	55,297	-2.5	416	-0.1	7,319	5.4	3,266	-1.1	805	-15.5	2,620	-18.3	1,434	-22.6
Nickel	14,732	-39.3	266	9.7	2,785	-37.8	60	40.8	149	-72.2	0	-85.4	957	-3.8
Aluminum	56,571	-0.9	1,070	-1.7	11,883	-0.5	61	-18.7	2,135	59.5	697	4.1	1,204	-11.9
Lead	5,339	-5.9	123	48.3	1,378	1.6	85	10.7	124	-79.6	54	47.7	427	-1.1

IT products

(Unit: US$ million, %)

	World		US		EU15		Japan		China		ASEAN4		Asia NIEs	
	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage
Total IT equipment	2,065,531	13.0	189,716	14.7	458,862	8.7	142,997	18.4	422,082	29.5	131,934	23.4	480,296	35.0
IT parts	1,021,064	6.4	98,309	7.6	197,354	3.7	84,721	10.9	145,514	10.2	78,013	13.8	337,042	24.5
Finished IT products	1,044,468	6.6	91,407	7.1	261,508	4.9	58,275	7.5	276,569	19.4	53,921	9.6	143,254	10.4
Computers and peripherals (total)	456,999	2.9	39,400	3.1	105,398	2.0	7,768	1.0	145,522	10.2	49,092	8.7	73,749	5.4
Multifunctional digital equipment	18,498	0.1	464	0.0	5,944	0.1	980	0.1	7,910	0.6	444	0.1	1,333	0.1
Computers and peripherals	287,073	1.8	23,787	1.8	70,520	1.3	3,601	0.5	105,621	7.4	32,015	5.7	25,073	1.8
Parts of computer and peripherals	151,428	1.0	15,150	1.2	28,934	0.5	3,187	0.4	31,991	2.2	16,632	3.0	47,344	3.4
Office equipment	5,087	0.0	597	0.0	922	0.0	114	0.0	1,446	0.1	505	0.1	938	0.1
Telecommunications equipment	337,903	2.1	23,460	1.8	77,113	1.5	8,660	1.1	91,993	6.4	6,894	1.2	79,617	5.8
Semiconductors and electronic components	454,485	2.9	50,658	3.9	60,976	1.2	44,524	5.7	42,844	3.0	42,770	7.6	193,690	14.1
Electronic tubes and semiconductors	95,165	0.6	8,892	0.7	18,592	0.4	11,680	1.5	18,113	1.3	8,298	1.5	23,854	1.7
Integrated circuits	359,320	2.3	41,766	3.2	42,384	0.8	32,844	4.2	24,731	1.7	34,471	6.1	169,836	12.4
Other electric and electronic components	408,389	2.6	30,421	2.4	106,082	2.0	34,615	4.5	70,481	4.9	18,597	3.3	95,475	6.9
Flat-panel displays	61,708	0.4	3,166	0.2	8,326	0.2	8,904	1.1	10,820	0.8	3,319	0.6	20,448	1.5
Video equipment	193,695	1.2	6,083	0.5	31,262	0.6	16,164	2.1	56,923	4.0	8,857	1.6	19,899	1.4
Digital cameras	41,331	0.3	1,558	0.1	7,462	0.1	12,354	1.6	10,818	0.8	1,629	0.3	5,349	0.4
Reception apparatus for television	79,368	0.5	1,696	0.1	11,808	0.2	799	0.1	14,141	1.0	2,299	0.4	2,698	0.2
Audio equipment	6,821	0.0	666	0.1	2,073	0.0	144	0.0	1,423	0.1	362	0.1	1,663	0.1
Portable audio players	5,647	0.0	512	0.0	1,730	0.0	115	0.0	1,266	0.1	117	0.0	1,506	0.1
Measuring and testing equipment	170,263	1.1	30,977	2.4	67,615	1.3	17,266	2.2	10,884	0.8	4,789	0.8	13,252	1.0
Machines and apparatus for the manufacture of semiconductor devices	31,889	0.2	7,454	0.6	7,421	0.1	13,742	1.8	567	0.0	68	0.0	2,013	0.1

(Notes) (1) See statistical appendix for the definition of products.
(2) Value of world exports based on JETRO estimates.
(3) Asia NIEs include South Korea, Hong Kong, Singapore, and Taiwan.
(4) For IT products, since comparison of time series data with the past is difficult due to major revisions to HS Codes in 2007, 2008 levels and percentages of total export (import) value are shown.

(Sources) Same as Table 3.

Table 5 World Imports by Product (2008)

(Unit: US$ million, %)

	World		US		EU15		Japan		China		ASEAN4		Asia NIEs	
	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate
Total	16,832,338	15.2	2,337,379	7.5	5,422,378	11.0	756,086	21.7	1,131,469	18.3	523,512	22.2	1,388,132	14.8
Machinery and equipment	6,274,623	7.3	869,205	-1.8	1,907,763	4.2	183,414	5.3	524,737	7.5	207,330	14.9	601,761	4.3
General equipment	2,043,804	9.1	276,780	-0.3	653,155	5.3	59,058	6.2	138,707	11.5	67,679	16.7	162,183	7.2
Electrical equipment	2,093,021	6.0	279,541	1.1	492,291	4.5	77,715	5.5	266,639	3.5	100,746	7.8	348,619	2.3
Transport equipment	1,636,505	6.2	244,435	-8.2	619,335	1.6	22,580	3.7	39,833	13.7	27,913	39.3	39,672	15.4
Automobiles	815,793	2.4	154,555	-10.4	304,831	-4.0	7,219	-8.4	15,134	38.9	7,456	51.9	9,827	11.6
Passenger vehicles	653,933	1.6	139,995	-6.2	253,679	-5.5	6,820	-11.3	14,036	42.8	4,117	38.5	8,306	8.5
Motorcycles	22,753	7.9	3,469	-1.1	9,934	4.1	714	21.9	6	10.9	429	-4.5	358	-6.4
Automotive parts	345,231	2.1	52,800	-10.7	136,264	-1.4	6,851	17.6	12,414	4.8	8,232	42.2	6,834	5.4
Precision instruments	501,766	9.6	68,449	5.7	142,982	9.3	24,061	3.6	79,557	12.3	10,992	21.7	51,287	1.1
Chemicals	2,139,600	13.5	239,411	11.9	825,593	9.6	65,469	20.3	137,707	11.6	63,987	26.6	121,145	7.5
Industrial chemicals	1,475,975	15.3	177,039	14.3	589,372	11.0	47,920	19.9	76,961	12.3	42,330	29.4	82,402	8.9
Pharmaceuticals and medical supplies	415,620	14.1	58,158	6.9	210,791	13.6	9,988	20.2	4,886	41.3	2,967	11.9	7,753	12.2
Plastics and rubber	663,625	9.5	62,372	5.6	236,221	6.2	17,549	21.5	60,747	10.6	21,657	21.4	38,743	4.4
Foodstuffs	1,029,273	17.5	96,688	6.7	433,379	13.0	60,456	16.9	16,246	23.3	30,669	26.9	47,220	20.6
Seafood	82,309	6.0	12,015	1.4	32,710	1.8	11,604	13.5	3,657	6.2	2,995	21.1	5,861	4.6
Grains	114,002	44.6	3,086	69.3	22,885	27.7	10,319	55.5	699	35.7	6,991	57.4	6,823	47.2
Wheat	50,150	52.6	1,200	115.4	9,084	27.1	3,262	99.8	7	-64.5	3,401	53.9	1,869	52.1
Corn	31,722	31.9	389	35.9	6,384	10.6	5,602	45.8	12	84.9	814	-1.7	4,119	47.9
Rice	18,777	47.4	605	41.5	2,807	58.5	408	12.7	184	-15.6	2,744	98.7	740	35.3
Processed food products	444,584	15.8	47,500	7.1	193,409	15.2	20,941	6.7	6,089	34.0	12,641	23.9	17,829	18.0
Oils, fats, and other animal and vegetable products	171,087	49.3	9,095	45.4	52,490	42.4	7,850	40.8	34,180	70.8	5,007	56.3	6,206	39.7
Miscellaneous manufactured goods	501,722	7.3	120,016	-2.6	184,617	7.3	20,854	5.1	5,024	11.2	3,836	27.0	33,991	7.9
Iron ore	109,195	63.7	1,026	72.7	16,043	48.1	13,021	47.5	59,291	75.4	1,015	97.9	6,697	59.2
Mineral fuels etc.	2,963,278	43.5	546,622	34.8	860,891	40.7	266,405	54.0	168,643	61.1	97,719	34.5	306,434	50.1
Mineral fuels	2,829,274	43.8	540,802	35.1	780,353	41.2	265,710	54.4	167,350	62.5	96,527	34.5	302,915	51.2
Coal	125,710	73.2	2,270	18.6	33,655	57.5	29,301	97.9	3,544	46.3	2,979	88.1	20,922	85.5
LNG	108,132	53.8	4,090	-34.2	17,628	52.2	45,163	68.8	931	55.0	6	111.5	26,620	57.1
Petroleum and petroleum	2,341,917	42.1	491,458	37.7	609,978	38.2	178,563	46.9	160,720	65.0	88,093	32.5	247,869	48.3
Crude oil	1,569,973	42.9	392,819	43.8	411,927	38.8	154,447	48.3	128,960	61.8	54,793	30.0	155,242	44.5
Textiles and textile products	649,435	5.4	106,556	-3.3	223,209	4.9	31,755	8.2	24,944	-1.7	11,464	40.3	44,895	-4.6
Synthetic fibers and textiles	75,392	0.6	4,273	-4.3	18,513	-4.0	1,278	15.1	6,175	-6.0	2,919	35.6	4,853	-7.8
Clothing	367,347	6.8	81,222	-3.2	151,773	7.8	24,287	7.5	2,075	14.6	1,071	24.3	24,772	-3.3
Base metals and base metal products	1,398,385	11.6	138,146	7.2	493,828	4.0	41,014	8.4	79,631	2.6	61,476	33.4	117,511	18.6
Steel	872,483	22.4	77,641	21.9	298,791	11.1	17,591	26.1	35,076	13.0	42,177	48.2	74,261	39.0
Copper	55,490	-2.2	5,910	-10.0	18,688	-5.4	733	-2.7	10,249	-4.4	3,995	11.4	8,083	-4.3
Nickel	16,979	-36.8	2,969	-32.3	6,595	-40.2	1,043	-46.3	2,748	-28.9	91	-32.4	1,745	-43.4
Aluminum	58,846	-11.2	9,155	-0.6	22,768	-11.2	8,389	4.9	564	-10.4	2,595	6.1	5,340	-2.5
Lead	5,822	-2.9	740	15.7	1,958	-10.2	69	-19.5	118	33.9	452	-6.3	611	-20.5

IT products

(Unit: US$ million, %)

	World		US		EU15		Japan		China		ASEAN4		Asia NIEs	
	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage	Value	Percentage
Total IT equipment	2,236,452	13.3	320,328	13.7	535,487	9.9	90,348	11.9	293,280	25.9	110,872	21.2	391,694	28.2
IT parts	1,136,616	6.8	91,583	3.9	207,368	3.8	46,777	6.2	221,625	19.6	86,605	16.5	279,865	20.2
Finished IT products	1,099,829	6.5	228,745	9.8	328,112	6.1	43,571	5.8	71,655	6.3	24,267	4.6	111,829	8.1
Computers and peripherals	476,715	2.8	89,010	3.8	153,160	2.8	20,319	2.7	38,975	3.4	21,808	4.2	57,545	4.1
Multifunctional digital equipment	20,232	0.1	5,261	0.2	7,903	0.1	1,591	0.2	496	0.0	162	0.0	1,013	0.1
Computers and peripherals	300,355	1.8	62,736	2.7	105,397	1.9	14,074	1.9	22,870	2.0	6,676	1.3	22,370	1.6
Parts of computer and peripherals	156,128	0.9	21,012	0.9	39,859	0.7	4,654	0.6	15,608	1.4	14,970	2.9	34,162	2.5
Office equipment	6,055	0.0	1,220	0.1	1,480	0.0	267	0.0	190	0.0	348	0.1	744	0.1
Telecommunications equipment	364,577	2.2	71,872	3.1	95,063	1.8	10,756	1.4	19,452	1.7	8,084	1.5	42,575	3.1
Semiconductors and electronic components	535,027	3.2	28,451	1.2	67,134	1.2	23,803	3.1	147,944	13.1	48,454	9.3	173,379	12.5
Electronic tubes and semiconductors	93,206	0.6	6,624	0.3	29,936	0.6	3,150	0.4	17,359	1.5	4,730	0.9	20,164	1.5
Integrated circuits	441,822	2.6	21,826	0.9	37,198	0.7	20,653	2.7	130,585	11.5	43,724	8.4	153,215	11.0
Other electric and electronic components	439,391	2.6	40,801	1.7	98,430	1.8	17,686	2.3	57,564	5.1	23,149	4.4	71,145	5.1
Flat-panel displays	76,838	0.5	2,796	0.1	12,095	0.2	4,582	0.6	8,160	0.7	3,958	0.8	11,872	0.9
Video equipment	197,063	1.2	57,979	2.5	62,546	1.2	5,752	0.8	5,299	0.5	1,954	0.4	15,106	1.1
Digital cameras	45,063	0.3	10,216	0.4	13,397	0.2	1,638	0.2	3,184	0.3	510	0.1	6,283	0.5
Reception apparatus for television	82,419	0.5	30,452	1.3	27,435	0.5	1,150	0.2	115	0.0	173	0.0	1,707	0.1
Audio equipment	9,381	0.1	1,525	0.1	3,642	0.1	432	0.1	77	0.0	133	0.0	1,547	0.1
Portable audio players	7,595	0.0	1,323	0.1	2,977	0.1	323	0.0	47	0.0	52	0.0	1,330	0.1
Measuring and testing equipment	181,105	1.1	25,329	1.1	50,435	0.9	8,833	1.2	17,610	1.6	6,781	1.3	20,906	1.5
Machines and apparatus for the manufacture of semiconductor devices	27,138	0.2	4,142	0.2	3,596	0.1	2,498	0.3	6,170	0.5	161	0.0	8,747	0.6

(Notes and Sources) Same as Table 4.

Table 6 FDI of major economies (net flows; balance-of-payments basis)

(Unit: US$ million, %)

	Inward FDI					Outward FDI				
	2007	2008	Growth rate	Share	Contribution	2007	2008	Growth rate	Share	Contribution
US	275,758	319,737	15.9	17.4	1.8	398,597	332,012	-16.7	15.3	-2.7
Canada	108,414	44,712	-58.8	2.4	-2.6	59,637	77,667	30.2	3.6	0.7
EU27	1,350,741	731,087	-45.9	39.8	-25.3	1,588,907	1,188,385	-25.2	54.6	-16.1
EU15	1,208,859	620,382	-48.7	33.8	-24.1	1,508,504	1,133,745	-24.8	52.1	-15.0
Belgium	110,774	63,064	-43.1	3.4	-1.9	93,901	74,179	-21.0	3.4	-0.8
Luxemburg	186,225	80,529	-56.8	4.4	-4.3	250,818	104,133	-58.5	4.8	-5.9
Austria	30,126	13,926	-53.8	0.8	-0.7	33,795	28,867	-14.6	1.3	-0.2
Denmark	11,830	10,926	-7.6	0.6	0.0	20,501	27,206	32.7	1.2	0.3
Finland	12,351	-4,199	n.a.	n.a.	-0.7	7,655	1,629	-78.7	0.1	-0.2
France	103,871	97,174	-6.4	5.3	-0.3	169,062	200,350	18.5	9.2	1.3
Germany	56,404	24,939	-55.8	1.4	-1.3	179,538	156,463	-12.9	7.2	-0.9
Greece	1,918	5,093	165.6	0.3	0.1	5,338	2,651	-50.3	0.1	-0.1
Ireland	24,707	-20,030	n.a.	n.a.	-1.8	21,146	13,501	-36.2	0.6	-0.3
Italy	40,202	17,026	-57.6	0.9	-0.9	90,778	43,839	-51.7	2.0	-1.9
Netherlands	340,093	117,933	-65.3	6.4	-9.1	181,790	227,436	25.1	10.4	1.8
Portugal	3,063	3,532	15.3	0.2	0.0	5,493	2,106	-61.7	0.1	-0.1
Spain	68,829	69,944	1.6	3.8	0.0	138,497	80,070	-42.2	3.7	-2.3
Sweden	22,077	43,587	97.4	2.4	0.9	37,807	37,295	-1.4	1.7	0.0
UK	196,390	96,939	-50.6	5.3	-4.1	272,384	134,019	-50.8	6.2	-5.6
12 new EU members	141,882	110,705	-22.0	6.0	-1.3	80,403	54,640	-32.0	2.5	-1.0
Czech Republic	10,596	10,871	2.6	0.6	0.0	1,641	1,899	15.7	0.1	0.0
Hungary	71,861	47,772	-33.5	2.6	-1.0	67,121	43,715	-34.9	2.0	-0.9
Poland	22,959	16,533	-28.0	0.9	-0.3	4,983	3,582	-28.1	0.2	-0.1
Slovakia	3,265	3,414	4.6	0.2	0.0	384	258	-32.8	0.0	0.0
Slovenia	1,457	1,734	19.0	0.1	0.0	1,810	1,453	-19.7	0.1	0.0
Estonia	2,737	1,969	-28.1	0.1	0.0	1,737	1,089	-37.3	0.1	0.0
Latvia	2,247	1,426	-36.6	0.1	0.0	334	231	-30.9	0.0	0.0
Lithuania	2,017	1,815	-10.0	0.1	0.0	608	356	-41.5	0.0	0.0
Cyprus	2,173	1,849	-14.9	0.1	0.0	1,201	1,361	13.3	0.1	0.0
Malta	930	901	-3.1	0.0	0.0	31	274	789.5	0.0	0.0
Bulgaria	11,716	9,205	-21.4	0.5	-0.1	274	733	167.7	0.0	0.0
Romania	9,924	13,218	33.2	0.7	0.1	279	-311.0	n.a.	n.a.	0.0
Norway	4,433	-95	n.a.	n.a.	-0.2	15,580	28,113	80.4	1.3	0.5
Switzerland	49,245	17,415	-64.6	0.9	-1.3	49,661	86,295	73.8	4.0	1.5
Australia	44,330	46,774	5.5	2.5	0.1	16,806	35,938	113.8	1.7	0.8
New Zealand	2,871	2,229	-22.4	0.1	0.0	2,811	357	-87.3	0.0	-0.1
Japan	22,181	24,550	10.7	1.3	0.1	73,483	130,801	78.0	6.0	2.3
East Asia	263,195	269,074	2.2	14.7	0.2	150,104	168,515	12.3	7.7	0.7
China	138,413	147,791	6.8	8.1	0.4	16,995	53,471	214.6	2.5	1.5
South Korea	1,579	2,200	39.4	0.1	0.0	15,276	12,794	-16.2	0.6	-0.1
Taiwan	7,769	5,432	-30.1	0.3	-0.1	11,107	10,293	-7.3	0.5	0.0
Hong Kong	54,341	62,992	15.9	3.4	0.4	61,081	59,921	-1.9	2.8	0.0
ASEAN5	61,093	50,659	-17.1	2.8	-0.4	45,646	32,036	-29.8	1.5	-0.5
Thailand	11,238	10,090	-10.2	0.6	0.0	1,857	2,835	52.7	0.1	0.0
Malaysia	8,460	7,984	-5.6	0.4	0.0	11,119	14,174	27.5	0.7	0.1
Indonesia	6,928	8,340	20.4	0.5	0.1	4,675	5,861	25.4	0.3	0.0
Philippines	2,916	1,520	-47.9	0.1	-0.1	3,536	237	-93.3	0.0	-0.1
Singapore	31,550	22,725	-28.0	1.2	-0.4	24,458	8,928	-63.5	0.4	-0.6
India	24,403	41,077	68.3	2.2	0.7	15,461	19,354	25.2	0.9	0.2
Argentina	6,473	7,979	23.3	0.4	0.1	1,504	1,504	0.0	0.1	0.0
Brazil	34,585	45,058	30.3	2.5	0.4	7,067	20,457	189.5	0.9	0.5
Chile	12,577	16,787	33.5	0.9	0.2	3,009	6,891	129.0	0.3	0.2
Colombia	9,049	10,564	16.7	0.6	0.1	913	2,158	136.4	0.1	0.0
Mexico	27,167	18,589	-31.6	1.0	-0.4	8,256	438	-94.7	0.0	-0.3
Venezuela	646	1,716	165.6	0.1	0.0	2,237	2,757	23.2	0.1	0.0
Russia	55,073	73,053	32.6	4.0	0.7	45,916	52,629	14.6	2.4	0.3
Israel	9,961	10,544	5.9	0.6	0.0	6,782	7,719	13.8	0.4	0.0
South Africa	5,737	9,632	67.9	0.5	0.2	2,982	-2,305	n.a.	n.a.	-0.2
Turkey	22,046	18,198	-17.5	1.0	-0.2	2,106	2,585	22.7	0.1	0.0
Developed economies (31 countries and regions)	1,829,324	1,183,703	-35.3	64.5	-26.4	2,260,042	1,919,615	-15.1	88.2	-13.7
Developing economies	617,409	650,904	5.4	35.5	1.4	232,636	257,019	10.5	11.8	1.0
World	2,446,733	1,834,607	-25.0	100.0	-25.0	2,492,678	2,176,634	-12.7	100.0	-12.7

(Notes)

(1) JETRO estimates used for "World" and "Developing Economies" figures (see Reference Materials: Supplement Statistics, Annotation 3 for methods of estimation). Sum totals used for "Developed Economies."

(2) For countries and regions which do not release dollar-based data, figures are converted to dollar values using IMF average exchange rates for corresponding years.

(3) "Developed Economies" refers to 31 countries and regions classified based on BOP (IMF) categories. "Developing Economies" is defined to include all other countries and regions.

(4) Figures for "East Asia" represent the sum total of figures for China, South Korea, Taiwan, Hong Kong, and five ASEAN nations.

(Sources) Based on national and regional balance of payments statistics, BOP (IMF), and UN Economic Commission for Latin America and the Caribbean (ECLAC) data.

Table 7 World cross-border M&As (by target and acquirer country and region)

(Unit: US$ million, %, cases)

		2005	2006	2007	2008				First half 2009			
		Value	Value	Value	Value	Growth rate	Share	No. of cases	Value	Growth rate	Share	No. of cases
	World	848,279	1,012,952	1,617,053	1,213,086	-25.0	100.0	9,350	225,189	-64.5	100.0	2,879
Target country or region	US	108,258	188,991	325,507	328,826	1.0	27.1	1,361	73,623	-49.8	32.7	373
	Canada	29,374	74,153	122,815	44,456	-63.8	3.7	478	2,228	-89.4	1.0	168
	EU27	522,215	504,089	791,679	465,686	-41.2	38.4	3,643	80,618	-70.7	35.8	1,036
	EU15	496,837	481,383	772,934	446,818	-42.2	36.8	3,160	75,707	-71.2	33.6	939
	UK	206,618	211,572	229,579	176,536	-23.1	14.6	872	20,572	-80.9	9.1	201
	France	35,862	47,511	67,414	25,997	-61.4	2.1	327	1,582	-90.2	0.7	108
	Germany	65,346	63,316	91,950	55,365	-39.8	4.6	487	4,981	-83.4	2.2	149
	Netherlands	33,547	36,264	187,309	30,114	-83.9	2.5	200	2,651	-85.1	1.2	49
	Italy	51,804	34,717	34,012	33,207	-2.4	2.7	230	2,689	-86.9	1.2	68
	Spain	26,368	14,569	64,992	42,681	-34.3	3.5	275	17,664	-46.0	7.8	115
	12 new EU members	25,378	22,706	18,745	18,868	0.7	1.6	483	4,911	-61.7	2.2	97
	Czech Republic	11,187	1,775	1,445	5,822	302.9	0.5	107	2,168	-60.6	1.0	14
	Hungary	3,227	3,444	6,285	2,866	-54.4	0.2	43	1,852	-34.0	0.8	6
	Poland	2,652	4,933	3,357	3,910	16.5	0.3	83	331	-84.8	0.1	26
	Switzerland	10,682	14,024	26,902	21,591	-19.7	1.8	142	9,049	-46.6	4.0	59
	Norway	8,395	6,388	10,535	19,013	80.5	1.6	121	1,162	-73.9	0.5	43
	Australia	11,950	17,515	66,347	43,163	-34.9	3.6	439	12,911	-19.1	5.7	171
	Japan	3,596	4,356	26,474	19,159	-27.6	1.6	168	655	-95.5	0.3	48
	East Asia	53,388	61,519	63,336	107,074	69.1	8.8	1,084	15,817	-47.7	7.0	302
	China	14,592	18,024	11,219	18,986	69.2	1.6	375	4,986	0.4	2.2	91
	South Korea	8,889	3,657	2,803	4,891	74.5	0.4	63	1,405	-4.0	0.6	16
	Taiwan	3,173	6,569	6,828	2,832	-58.5	0.2	47	326	-71.1	0.1	9
	Hong Kong	10,856	15,911	11,075	47,816	331.8	3.9	156	642	-86.5	0.3	47
	ASEAN6	15,877	17,358	31,411	32,549	3.6	2.7	443	8,459	-52.9	3.8	139
	Singapore	5,753	7,817	10,546	17,637	67.2	1.5	130	4,208	-55.7	1.9	43
	Thailand	443	5,121	3,126	398	-87.3	0.0	43	458	363.9	0.2	20
	Malaysia	1,632	2,695	8,086	3,207	-60.3	0.3	94	83	-96.8	0.0	19
	Indonesia	7,491	886	4,280	6,216	45.2	0.5	92	2,375	-18.6	1.1	28
	Philippines	552	619	4,754	4,042	-15.0	0.3	36	1,225	-40.9	0.5	5
	Vietnam	7	220	620	1,050	69.4	0.1	48	110	-85.6	0.0	24
	India	5,925	8,483	21,945	14,820	-32.5	1.2	250	4,993	-18.9	2.2	65
	Mexico	5,470	2,489	11,554	5,824	-49.6	0.5	84	166	-87.4	0.1	31
	Brazil	9,951	10,910	19,520	19,546	0.1	1.6	219	3,367	-62.3	1.5	49
	United Arab Emirates	213	80	1,739	4,279	146.0	0.4	44	104	-86.3	0.0	7
	South Africa	6,693	7,043	9,404	8,048	-14.4	0.7	69	1,917	-71.7	0.9	18
	Russia	9,100	9,151	26,801	17,846	-33.4	1.5	234	1,378	-87.7	0.6	109
Acquirer country or region	US	157,464	218,980	299,649	149,259	-50.2	12.3	1,841	18,801	-77.0	8.3	572
	Canada	23,893	39,460	67,533	53,802	-20.3	4.4	468	10,197	-76.0	4.5	177
	EU27	486,634	438,766	837,930	571,230	-31.8	47.1	4,015	94,256	-68.1	41.9	1,190
	EU15	484,136	430,335	832,977	566,357	-32.0	46.7	3,818	92,726	-68.3	41.2	1,064
	UK	120,618	92,872	314,487	138,080	-56.1	11.4	1,010	11,816	-86.7	5.2	249
	France	94,685	67,225	113,327	86,439	-23.7	7.1	558	38,513	4.7	17.1	164
	Germany	39,236	54,115	115,865	82,226	-29.0	6.8	512	10,030	-81.7	4.5	173
	Netherlands	94,361	25,027	34,505	62,178	80.2	5.1	341	1,854	-96.4	0.8	102
	Italy	30,831	15,662	71,789	35,004	-51.2	2.9	190	17,970	-14.2	8.0	42
	Spain	31,398	101,089	61,162	34,156	-44.2	2.8	172	4,213	-54.5	1.9	55
	12 new EU members	2,498	8,431	4,953	4,872	-1.6	0.4	197	1,530	-51.1	0.7	126
	Switzerland	18,339	48,847	27,857	61,703	121.5	5.1	285	49,356	166.1	21.9	104
	Norway	10,428	10,348	10,329	7,391	-28.4	0.6	124	275	-81.8	0.1	31
	Australia	37,025	53,465	54,737	27,592	-49.6	2.3	265	1,189	-93.3	0.5	59
	Japan	11,254	21,215	40,781	65,168	59.8	5.4	275	10,494	-54.1	4.7	101
	East Asia	37,839	50,372	76,205	137,124	79.9	11.3	859	14,117	-78.6	6.3	287
	China	8,770	14,883	18,446	77,013	317.5	6.3	125	3,520	-87.1	1.6	41
	South Korea	329	2,589	9,429	6,584	-30.2	0.5	73	1,221	-61.5	0.5	35
	Taiwan	593	427	1,773	1,237	-30.2	0.1	41	90	-90.7	0.0	18
	Hong Kong	11,837	12,102	11,468	8,440	-26.4	0.7	194	3,231	2.4	1.4	56
	ASEAN6	16,311	20,370	35,089	43,851	25.0	3.6	426	6,055	-80.7	2.7	137
	Singapore	10,634	15,058	28,727	27,733	-3.5	2.3	196	1,933	-92.5	0.9	50
	Thailand	220	102	267	1,452	444.4	0.1	21	825	-13.6	0.4	15
	Malaysia	2,856	4,603	5,066	13,414	164.8	1.1	178	3,101	-24.6	1.4	63
	Indonesia	620	363	906	924	2.0	0.1	14	175	-53.5	0.1	4
	Philippines	1,981	236	123	303	147.2	0.0	16	21	-90.5	0.0	4
	India	2,166	7,311	31,522	14,763	-53.2	1.2	200	690	-92.6	0.3	40
	Mexico	3,144	3,757	19,985	621	-96.9	0.1	35	3,128	477.7	1.4	15
	Brazil	2,452	19,861	10,898	5,534	-49.2	0.5	63	2,498	-20.4	1.1	14
	Saudi Arabia	6,688	5,689	16,257	4,526	-72.2	0.4	23	17	-98.5	0.0	2
	United Arab Emirates	8,753	25,724	26,890	26,076	-3.0	2.1	101	10,052	-59.0	4.5	31
	South Africa	2,491	11,558	5,005	5,419	8.3	0.4	55	386	-87.3	0.2	28
	Russia	6,816	4,257	21,967	20,585	-6.3	1.7	143	3,579	-74.7	1.6	38

(Notes)

(1) Data as of July 6, 2009.

(2) ASEAN 6 consists of Singapore, Thailand, Malaysia, Indonesia, the Philippines, and Vietnam.

(3) East Asia figures represent totals for China, South Korea, Taiwan, Hong Kong, and ASEAN6.

(Source) Based on Thomson Reuters data.

Table 8 World cross-border M&As (by industry)

(Unit: US$ million, %, cases)

	2005	2006	2007	2008				First half 2009			
	Value	Value	Value	Value	Growth rate	Share	No. of cases	Value	Growth rate	Share	No. of cases
All industries	**848,279**	**1,012,952**	**1,617,053**	**1,213,086**	**-25.0**	**100.0**	**9,350**	**225,189**	**-64.5**	**100.0**	**2,879**
Primary industries	**134,934**	**104,671**	**124,281**	**135,711**	**9.2**	**11.2**	**903**	**24,966**	**-61.0**	**11.1**	**357**
Oil and Gas: Petroleum Refining	119,114	39,314	80,629	73,968	-8.3	6.1	323	11,523	-55.5	5.1	95
Agriculture, Forestry, and Fishing	1,965	2,454	5,499	3,082	-44.0	0.3	94	620	-66.1	0.3	39
Mining	13,854	62,902	38,153	58,661	53.8	4.8	486	12,823	-64.6	5.7	223
Manufacturing	**242,895**	**251,207**	**509,178**	**424,647**	**-16.6**	**35.0**	**2,913**	**88,964**	**-59.2**	**39.5**	**865**
Food, Tobacco	56,111	27,633	71,689	156,951	118.9	12.9	347	10,848	-78.9	4.8	117
Food and Kindred Products	50,545	25,724	49,545	108,038	118.1	8.9	337	10,203	-64.0	4.5	113
Tobacco Products	5,567	1,910	22,144	48,913	120.9	4.0	10	645	-97.2	0.3	4
Textile and Apparel Products	3,532	3,608	13,219	3,002	-77.3	0.2	95	141	-94.4	0.1	19
Wood and Paper Products	8,261	6,600	13,868	7,767	-44.0	0.6	131	1,269	-73.7	0.6	35
Wood Products, Furniture, and Fixtures	4,005	4,614	5,093	1,908	-62.5	0.2	54	402	-66.5	0.2	16
Paper and Allied Products	4,256	1,986	8,774	5,859	-33.2	0.5	77	867	-76.1	0.4	19
Stone, Clay, Glass, and Concrete Products	15,387	11,943	49,000	31,497	-35.7	2.6	124	962	-96.4	0.4	22
Chemicals	63,430	70,221	138,800	96,879	-30.2	8.0	601	59,119	-1.4	26.3	189
Chemicals and Allied Products	30,913	30,118	26,589	34,012	27.9	2.8	215	6,518	-78.2	2.9	66
Drugs	27,825	30,499	99,150	50,418	-49.1	4.2	246	52,094	123.2	23.1	79
Metal and Metal Products	31,249	18,752	112,531	29,347	-73.9	2.4	321	1,455	-92.5	0.6	79
Machinery and Equipment	48,721	86,692	89,428	91,767	2.6	7.6	1,145	14,805	-69.3	6.6	355
Machinery	4,950	19,418	25,476	16,796	-34.1	1.4	346	921	-88.8	0.4	83
Electronic and Electrical Equipment	12,755	19,319	21,124	21,318	0.9	1.8	317	5,359	-57.3	2.4	89
Computer and Office Equipment	3,190	2,047	4,524	444	-90.2	0.0	44	839	281.2	0.4	16
Communications Equipment	1,921	19,521	4,091	1,963	-52.0	0.2	47	645	-35.9	0.3	25
Transportation Equipment	8,042	7,307	9,141	13,679	49.7	1.1	149	5,048	-55.0	2.2	58
Aerospace and Aircraft	3,114	9,673	11,828	3,680	-68.9	0.3	22	265	-39.7	0.1	10
Measuring, Medical, Photo Equipment; Clocks	14,748	9,407	13,243	33,887	155.9	2.8	220	1,729	-88.1	0.8	74
Printing, Publishing, and Allied Services	11,462	23,665	18,994	5,396	-71.6	0.4	101	349	-91.8	0.2	38
Miscellaneous Manufacturing	4,742	2,093	1,651	2,040	23.5	0.2	48	15	-98.4	0.0	11
Service	**470,450**	**657,074**	**983,593**	**652,714**	**-33.6**	**53.8**	**5,532**	**111,259**	**-68.4**	**49.4**	**1,657**
Electric, Gas, and Water Distribution	65,341	52,674	151,837	99,567	-34.4	8.2	288	45,620	-4.5	20.3	110
Transportation	37,030	67,049	49,644	37,089	-25.3	3.1	356	3,898	-72.9	1.7	103
Transportation and Shipping (except air)	30,127	29,913	43,586	28,389	-34.9	2.3	296	2,878	-73.5	1.3	91
Air Transportation and Shipping	6,903	37,137	6,058	8,700	43.6	0.7	60	1,021	-71.3	0.5	12
Telecommunications	72,221	116,678	66,357	75,205	13.3	6.2	158	11,111	-64.7	4.9	64
Construction Firms	7,907	18,117	16,398	3,626	-77.9	0.3	156	2,449	12.4	1.1	49
Commerce	33,335	29,604	78,299	40,325	-48.5	3.3	797	5,700	-76.6	2.5	234
Wholesale Trade	8,607	8,423	20,768	22,447	8.1	1.9	512	1,352	-88.0	0.6	130
Retail Trade, Eating and Drinking Places	24,728	21,181	57,531	17,877	-68.9	1.5	285	4,348	-66.8	1.9	104
Real Estate; Mortgage Bankers and Brokers	61,070	77,172	104,358	47,075	-54.9	3.9	356	7,864	-72.3	3.5	85
Finance, insurance	104,817	165,223	360,608	227,703	-36.9	18.8	995	27,323	-78.8	12.1	313
Commercial Banks, Bank Holding Companies	60,494	76,799	182,478	121,116	-33.6	10.0	199	14,992	-75.7	6.7	46
Investment & Commodity Firms, Dealers, Exchanges	22,534	39,860	128,380	61,552	-52.1	5.1	482	3,852	-91.6	1.7	156
Insurance	15,149	37,732	44,512	38,199	-14.2	3.1	215	4,770	-73.8	2.1	65
Hotels and Casinos	8,969	25,181	19,605	6,598	-66.3	0.5	95	764	-86.1	0.3	16
Other service	79,760	105,376	136,487	115,527	-15.4	9.5	2,331	6,530	-90.6	2.9	683
Advertising Services	1,595	2,087	2,871	465	-83.8	0.0	45	21	-95.1	0.0	13
Broadcasting Services (radio, television)	18,980	17,340	34,467	8,896	-74.2	0.7	93	395	-92.3	0.2	24
Leisure related Services	3,756	7,345	5,293	1,706	-67.8	0.1	72	114	-89.4	0.1	16
Film related Services	883	1,132	2,707	314	-88.4	0.0	43	138	-36.6	0.1	17
Business Services (such as computer-related services)	25,427	28,582	48,528	60,573	24.8	5.0	1,304	3,353	-91.2	1.5	399
Prepackaged Software	18,386	20,465	16,186	34,168	111.1	2.8	450	1,460	-92.6	0.6	135
Others	**-**	**-**	**-**	**15**	**n.a.**	**0.0**	**2**	**-**	**n.a.**	**n.a.**	**-**
IT (for reference)	132,067	203,311	159,561	154,688	-3.1	12.8	1,548	20,384	-70.9	9.1	476

(Notes)
(1) Data as of July 6, 2009.
(2) Based on industries of acquired firms.
(3) IT includes hardware such as computers and peripherals, telecommunications equipment, software services, and telecommunications services.
(Sources) Same as Table 7.

Table 9 Japanese trade by country and region

(Unit: US$ million, %)

	Exports						Imports					
	2006		2007		2008		2006		2007		2008	
	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate
Asia	307,779	6.3	343,113	11.5	382,658	11.5	252,506	9.6	267,926	6.1	307,169	14.7
China	92,852	15.6	109,060	17.5	124,035	13.7	118,516	8.6	127,644	7.7	142,337	11.5
South Korea	50,321	7.3	54,199	7.7	58,985	8.8	27,345	11.4	27,252	-0.3	29,248	7.3
Taiwan	44,152	0.6	44,780	1.4	45,708	2.1	20,345	11.9	19,809	-2.6	21,637	9.2
Hong Kong	36,469	0.9	38,818	6.4	39,988	3.0	1,521	-3.7	1,448	-4.8	1,545	6.7
ASEAN10	76,349	0.4	86,990	13.9	102,799	18.2	79,990	9.5	86,898	8.6	106,118	22.1
Thailand	22,924	1.4	25,553	11.5	29,253	14.5	16,896	7.8	18,275	8.2	20,627	12.9
Malaysia	13,223	4.9	15,027	13.6	16,329	8.7	15,488	4.8	17,368	12.1	23,027	32.6
Indonesia	7,378	-20.6	9,047	22.6	12,508	38.3	24,149	15.3	26,445	9.5	32,293	22.1
Philippines	9,015	-1.1	9,458	4.9	9,902	4.7	7,963	2.5	8,704	9.3	8,355	-4.0
Singapore	19,360	4.4	21,784	12.5	26,425	21.3	7,485	11.0	7,031	-6.1	7,829	11.3
Vietnam	4,142	14.7	5,673	37.0	7,767	36.9	5,295	16.1	6,125	15.7	9,027	47.4
India	4,457	25.9	6,152	38.0	7,850	27.6	4,058	26.2	4,153	2.4	5,215	25.6
Oceania	15,502	-0.7	17,891	15.4	21,069	17.8	31,765	12.7	35,529	11.9	51,658	45.4
Australia	12,509	0.1	14,199	13.5	17,162	20.9	27,947	13.6	31,161	11.5	47,280	51.7
New Zealand	2,096	-14.6	2,489	18.7	2,501	0.5	2,534	0.2	2,686	6.0	2,892	7.7
North America	155,614	8.2	153,903	-1.1	146,891	-4.6	77,757	5.7	80,857	4.0	89,780	11.0
US	145,651	8.0	143,383	-1.6	136,200	-5.0	68,071	5.5	70,836	4.1	77,018	8.7
Canada	9,963	12.3	10,520	5.6	10,691	1.6	9,623	7.2	9,957	3.5	12,680	27.4
Central and South America	30,574	21.8	35,063	14.7	40,684	16.0	20,411	26.7	24,117	18.2	27,448	13.8
Mexico	9,283	34.1	10,221	10.1	9,880	-3.3	2,823	10.7	3,153	11.7	3,783	20.0
Panama	8,096	9.0	8,594	6.1	10,851	26.3	35	-20.8	13	-62.3	18	35.4
Brazil	3,049	11.8	3,989	30.8	5,878	47.4	5,089	14.8	5,981	17.5	9,068	51.6
Chile	1,088	14.9	1,581	45.3	2,727	72.5	7,256	40.6	8,133	12.1	7,852	-3.5
Europe	100,835	7.3	112,492	11.6	118,411	5.3	67,001	1.6	72,510	8.2	79,053	9.0
EU27	94,139	6.7	105,270	11.8	109,383	3.9	60,064	1.4	65,009	8.2	69,915	7.6
Germany	20,433	8.9	22,581	10.5	23,796	5.4	18,463	2.8	19,388	5.0	20,702	6.8
France	7,628	-2.4	8,365	9.7	8,922	6.7	8,972	4.8	10,015	11.6	10,561	5.5
UK	15,238	0.4	16,268	6.8	16,309	0.3	6,718	-0.5	7,520	11.9	7,410	-1.5
Italy	6,428	11.3	6,709	4.4	6,754	0.7	7,037	1.6	7,234	2.8	7,897	9.2
Denmark	886	1.5	766	-13.6	727	-5.1	2,037	-15.0	2,020	-0.8	2,428	20.2
Ireland	1,638	-15.8	1,599	-2.4	1,268	-20.7	3,494	-7.9	4,090	17.1	4,133	1.0
Netherlands	14,740	11.6	18,513	25.6	20,923	13.0	2,176	1.5	2,799	28.6	3,790	35.4
Belgium	7,155	-0.3	7,895	10.4	8,415	6.6	1,848	-13.5	1,926	4.2	2,047	6.3
Luxemburg	202	-11.0	193	-4.8	176	-8.9	33	-23.7	46	40.0	43	-6.3
Spain	5,633	10.2	5,574	-1.1	4,363	-21.7	1,926	10.3	1,971	2.4	2,487	26.2
Portugal	768	2.7	819	6.7	759	-7.3	188	-4.7	169	-10.2	219	29.6
Greece	1,420	60.4	1,300	-8.5	1,211	-6.9	77	-35.2	56	-26.8	101	79.8
Austria	1,194	10.6	1,292	8.2	1,239	-4.1	1,543	15.7	1,597	3.5	1,544	-3.3
Sweden	1,848	-6.3	1,962	6.2	2,183	11.3	2,215	1.5	2,235	0.9	2,072	-7.3
Finland	2,407	27.1	2,519	4.7	2,325	-7.7	1,355	9.1	1,680	24.0	1,891	12.6
Switzerland	2,420	11.4	3,019	24.8	4,313	42.9	5,106	0.8	5,210	2.1	6,393	22.7
Central and Eastern Europe	5,638	16.1	7,661	35.9	8,823	15.2	1,711	10.8	2,009	17.4	2,253	12.1
Poland	1,057	4.6	1,637	54.8	1,962	19.9	263	14.8	379	44.3	477	25.7
Czech Republic	1,943	34.7	2,618	34.7	2,992	14.3	424	7.7	479	13.2	523	9.0
Slovakia	487	109.3	437	-10.3	460	5.2	168	55.0	204	21.3	215	5.4
Hungary	1,758	-4.0	2,380	35.4	2,599	9.2	579	1.8	620	7.1	717	15.7
Bulgaria	82	150.1	134	63.5	139	3.9	50	28.7	53	7.2	56	5.2
Romania	188	4.7	256	35.9	445	74.1	184	17.7	223	21.5	216	-3.3
Russia, CIS	8,315	60.2	12,482	50.1	19,139	53.3	7,369	8.0	11,514	56.2	14,743	28.0
Russia	7,065	57.5	10,738	52.0	16,374	52.5	6,658	7.3	10,554	58.5	13,281	25.8
Middle East	19,194	15.8	26,184	36.4	33,722	28.8	109,190	24.6	113,824	4.2	165,445	45.4
Iran	1,174	-12.8	1,329	13.2	1,889	42.1	11,113	7.3	12,678	14.1	18,095	42.7
Saudi Arabia	4,641	10.7	6,711	44.6	7,824	16.6	37,215	29.5	35,350	-5.0	50,470	42.8
Kuwait	1,190	0.4	1,665	40.0	2,088	25.4	9,105	18.8	9,928	9.0	15,121	52.3
United Arab Emirates	6,050	24.3	8,053	33.1	10,793	34.0	31,590	24.7	32,298	2.2	46,415	43.7
Oman	1,731	24.3	2,524	45.8	3,912	55.0	2,673	-2.5	3,578	33.9	5,519	54.2
Qatar	1,460	46.8	1,842	26.2	2,010	9.1	14,814	38.6	16,942	14.4	26,233	54.8
Israel	1,206	-1.6	1,896	57.3	2,166	14.2	834	-1.0	899	7.9	916	1.8
Africa	9,459	14.6	11,602	22.7	13,344	15.0	13,266	33.6	14,770	11.3	20,768	40.6
Egypt	1,140	43.9	1,287	12.9	1,859	44.5	397	235.8	839	111.2	1,576	87.9
Nigeria	565	8.1	732	29.6	923	26.2	811	-18.8	674	-16.9	1,749	159.4
Liberia	873	-21.5	1,190	36.2	1,203	1.2	8	3084.1	0	-98.3	46	33134.7
South Africa	4,062	23.6	4,599	13.2	4,598	0.0	6,635	19.7	7,709	16.2	8,920	15.7
World	647,290	8.2	712,735	10.1	775,918	8.9	579,294	11.7	621,084	7.2	756,086	21.7
APEC	488,067	7.4	527,354	8.1	567,769	7.7	374,233	9.5	402,149	7.5	468,213	16.4
NAFTA	166,556	9.2	165,942	-0.4	158,368	-4.6	81,877	5.8	85,316	4.2	94,765	11.1
Mercosur 4	3,831	13.5	4,984	30.1	7,085	42.2	5,715	17.6	6,910	20.9	9,977	44.4

(Note) Exchange rates are converted to US$ based on applicable customs rates.
(Source) Based on "Trade Statistics"(Ministry of Finance).

Table 10 Japan's exports by products (2008)

(Unit: US$ million, %)

	World		US		EU27		China		ASEAN10		Asia NIEs	
	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate
Total value	775,918	8.9	136,200	-5.0	109,383	3.9	124,035	13.7	102,799	18.2	171,106	7.2
Machinery and equipment	521,411	7.1	109,431	-5.5	83,128	2.4	69,625	12.9	59,058	13.4	87,456	3.4
General equipment	151,482	8.8	28,455	-1.5	28,022	2.0	23,447	15.4	20,972	18.2	29,757	5.3
Air conditioners	1,638	3.3	181	40.9	701	-8.5	187	9.5	168	23.4	148	-3.7
Mining and construction equipment	13,093	14.8	1,650	-15.0	2,125	-15.1	963	47.5	1,641	47.6	1,433	17.9
Machine tools	8,447	11.2	1,990	17.7	1,874	3.3	1,564	9.7	983	21.1	1,028	-0.1
Electrical equipment	138,650	2.7	20,082	-2.4	20,845	4.2	30,042	6.0	22,367	2.2	39,693	1.7
Transport equipment	195,966	9.4	54,095	-9.3	27,428	-0.8	9,240	30.9	12,290	28.3	9,276	19.5
Automobiles	131,301	8.5	40,930	-9.3	17,920	-3.2	4,075	47.8	4,443	25.7	3,147	7.6
Passenger vehicles	115,439	6.7	40,516	-8.6	17,137	-3.7	3,752	51.9	2,429	29.3	2,542	5.9
Motorcycles	5,797	-7.7	1,974	-9.4	2,315	-13.5	2	57.2	139	15.7	154	-25.0
Automotive parts	33,176	4.2	8,346	-9.8	5,657	4.9	5,153	19.8	4,912	25.8	1,746	-4.4
Precision instruments	35,313	5.3	6,800	1.3	6,833	12.8	6,896	15.5	3,429	20.4	8,730	-8.3
Chemicals	88,224	6.6	10,749	5.0	11,310	6.7	17,740	3.5	10,805	12.2	29,545	4.6
Industrial chemicals	52,650	4.7	6,827	6.4	6,999	6.8	10,551	0.1	6,014	9.6	19,086	3.0
Pharmaceuticals and medical supplies	2,981	21.0	1,121	13.0	852	23.3	183	33.4	101	38.6	381	15.8
Plastics and rubber	35,574	9.5	3,922	2.7	4,311	6.5	7,189	8.8	4,791	15.6	10,459	7.6
Foodstuffs	3,967	10.1	640	11.7	168	18.1	349	-16.0	569	36.3	1,937	7.5
Seafood	1,150	-0.9	181	15.9	27	-16.2	193	-24.1	261	32.2	340	-11.7
Grains	20	97.1	1	-19.7	0	17.6	1	42.8	1	-56.7	4	42.2
Processed food products	2,323	13.8	413	12.1	113	25.3	120	0.4	225	36.6	1,307	10.2
Oils, fats, and other animal and vegetable products	294	13.7	65	20.4	55	12.6	33	27.4	29	13.6	79	2.5
Miscellaneous manufactured goods	8,168	5.0	1,881	-5.6	2,032	4.3	1,260	27.3	650	15.8	1,536	-11.7
Other raw materials and products	123,195	26.9	8,188	-7.5	8,551	27.8	28,627	29.5	27,352	41.0	40,136	26.4
Mineral fuels etc.	18,707	101.2	695	-59.4	1,153	59.2	4,704	150.4	4,778	162.5	6,687	118.7
Mineral fuels	17,801	107.0	669	-60.7	1,153	59.2	4,536	163.1	4,742	163.6	5,982	135.3
Petroleum and petroleum products	17,344	111.0	470	-70.4	1,092	55.9	4,535	163.2	4,733	163.7	5,832	142.2
Textiles and textile products	8,767	3.9	655	-4.3	869	7.9	3,362	-0.6	1,313	14.8	1,565	0.7
Synthetic fibers and textiles	3,910	3.1	249	1.1	492	6.1	1,358	-5.3	539	16.9	500	-1.4
Clothing	416	13.8	36	-36.3	50	14.7	61	29.3	28	47.9	231	20.3
Base metals and base metal products	71,518	19.6	4,933	7.5	3,388	14.6	16,676	20.1	16,650	32.1	22,503	16.8
Steel	53,049	25.7	3,335	12.8	1,948	18.3	11,062	25.5	12,784	40.7	17,349	24.2
Primary steel products	39,262	30.4	1,215	18.3	834	20.1	8,708	22.4	9,692	50.5	15,374	25.7
Steel products	13,787	14.1	2,120	9.8	1,115	17.0	2,354	38.4	3,092	16.7	1,975	13.1
Copper	3,266	-1.1	49	-19.5	22	-10.4	1,559	7.5	483	11.8	1,142	-14.1
Nickel	60	40.8	3	135.5	17	234.9	14	96.9	4	-35.0	13	-24.4
Aluminum	61	-18.7	4	2.6	3	62.4	11	7.7	25	-2.4	5	-15.3
Lead	85	10.7	0	n.a.	1	1069.8	15	131.2	37	-0.2	31	-2.7
IT products												
Computers and peripherals	7,768	-13.8	2,749	-11.7	1,608	-15.3	849	-20.0	838	-6.9	1,465	-20.6
Multifunctional digital equipment	980	-16.0	560	-16.2	278	-11.3	16	-21.8	14	-29.6	50	-30.6
Computers and peripherals	3,601	-13.7	1,439	-15.2	854	-12.8	396	-13.0	155	24.4	580	-25.4
Parts of computer and peripherals	3,187	-13.3	750	0.3	476	-21.2	437	-25.4	669	-11.5	835	-16.1
Office equipment	114	-0.7	61	18.6	21	-36.8	1	-9.9	11	42.2	10	13.7
Telecommunications equipment	8,660	2.6	1,644	-14.6	1,343	15.0	1,792	-3.2	811	8.6	2,293	21.4
Semiconductors and electronic components	44,524	0.0	3,214	0.7	4,289	11.1	10,031	-0.9	10,298	-3.0	18,717	-1.1
Electron tubes and semiconductors	11,680	4.7	1,176	11.1	2,543	30.9	1,963	-1.5	2,155	-8.1	3,801	-2.7
Integrated circuits	32,844	-1.6	2,039	-4.5	1,746	-8.9	8,068	-0.7	8,143	-1.5	14,915	-0.7
Other electric and electronic components	34,615	-0.8	4,792	-4.3	5,485	-1.6	8,107	9.5	5,427	0.0	8,929	-2.7
Flat-panel displays	8,904	-0.4	1,131	10.6	2,316	3.1	2,345	32.1	802	-17.1	1,147	13.4
Video equipment	16,164	2.5	4,276	-6.3	4,849	-2.0	1,808	25.6	999	14.0	2,405	9.0
Digital cameras	12,354	4.9	3,263	-4.3	3,749	-1.8	1,603	22.6	729	17.8	1,807	15.6
Reception apparatus for television	799	-19.7	23	-67.3	127	-15.0	8	-32.5	62	-19.2	228	-6.5
Audio equipment	144	-7.3	44	-21.7	76	7.6	2	184.1	4	-26.8	11	-29.7
Portable audio players	115	-4.6	31	-26.7	68	18.8	2	185.2	4	-26.7	8	-42.5
Measuring and testing equipment	17,266	0.6	3,477	-3.0	3,177	11.3	3,410	-2.1	1,958	13.8	4,130	-11.1
Machines and apparatus for the manufacture of semiconductor devices	13,742	6.5	1,826	-9.4	360	-26.7	1,874	45.2	1,075	11.4	8,836	4.3
IT parts	84,721	-0.3	9,385	0.2	10,416	2.1	18,753	2.7	16,595	-2.3	29,744	-1.4
Finished IT products	58,275	0.5	12,698	-10.2	10,793	0.9	9,121	8.7	4,825	12.7	17,053	0.3
Total IT equipment	142,997	0.0	22,083	-6.1	21,209	1.5	27,874	4.6	21,420	0.8	46,797	-0.8

(Notes) (1) See Reference Materials: Supplement Statistics, Annotation 1 for product-category definitions.
(2) Singapore figures are included under both ASEAN10 and Asia NIEs statistics.
(Source) Same as Table 9.

Table 11 Japan's imports by products (2008)

(Unit: US$ million, %)

	World		US		EU27		China		ASEAN10		Asia NIEs	
	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate	Value	Growth rate
Total value	756,086	21.7	77,018	8.7	69,915	7.6	142,337	11.5	106,118	22.1	60,259	8.5
Machinery and equipment	183,414	5.3	32,111	-4.2	27,963	2.7	60,922	14.5	27,820	6.5	29,478	-0.3
General equipment	59,058	6.2	10,098	-7.1	9,484	5.6	24,115	13.6	8,001	5.0	6,822	4.9
Air conditioners	1,826	25.5	23	3.1	34	23.4	1,423	27.6	319	19.8	27	19.9
Mining and construction equipment	296	2.3	43	-1.5	110	1.6	73	12.4	19	-2.7	38	2.8
Machine tools	579	-6.2	56	-32.5	179	-6.4	88	-2.3	88	-7.6	122	24.4
Electrical equipment	77,715	5.5	8,325	-7.6	4,707	9.4	29,343	14.7	16,118	4.1	19,214	-1.0
Transport equipment	22,580	3.7	6,761	2.9	8,478	-6.2	2,919	24.2	1,623	31.6	1,141	16.8
Automobiles	7,219	-8.4	615	8.6	5,494	-10.6	37	55.3	160	126.1	35	-7.2
Passenger vehicles	6,820	-11.3	538	5.6	5,333	-11.6	18	0.1	30	-52.5	31	1.2
Motorcycles	714	21.9	204	26.3	105	7.4	159	24.4	46	215.0	197	8.1
Automotive parts	6,851	17.6	750	19.2	2,118	15.9	1,813	21.7	1,290	22.9	615	13.7
Precision instruments	24,061	3.6	6,927	-2.0	5,294	8.2	4,545	12.1	2,078	15.9	2,302	-13.8
Chemicals	65,469	20.3	11,615	12.1	18,872	14.7	11,899	23.5	9,000	27.7	7,131	34.9
Industrial chemicals	47,920	19.9	9,303	12.5	16,986	15.4	7,600	27.1	3,225	26.3	3,977	35.9
Pharmaceuticals and medical supplies	9,988	20.2	1,796	31.5	6,023	20.2	199	-12.3	138	63.1	211	40.2
Plastics and rubber	17,549	21.5	2,312	10.8	1,886	8.4	4,299	17.8	5,775	28.5	3,154	33.7
Foodstuffs	60,456	16.9	17,519	29.2	7,317	18.8	7,051	-11.9	7,442	23.9	2,845	19.5
Seafood	11,604	13.5	1,446	29.0	624	46.2	1,153	-1.3	2,030	7.1	1,197	16.7
Grains	10,319	55.5	8,122	60.4	13	-66.8	102	-62.6	125	55.5	0	-96.3
Wheat	3,262	99.8	1,979	108.1	3	62.6	2	-54.0	0	n.a.	0	n.a.
Corn	5,602	45.8	5,528	54.0	6	16.9	1	-99.4	5	66.4	0	n.a.
Processed food products	20,941	6.7	4,390	-3.2	4,596	22.0	4,168	-13.8	3,699	33.2	1,218	24.9
Oils, fats, and other animal and vegetable products	7,850	40.8	2,522	27.6	421	8.5	516	22.3	978	51.3	140	21.9
Miscellaneous manufactured goods	20,854	5.1	1,215	46.3	2,114	5.4	13,595	1.8	2,424	11.4	829	-7.2
Other raw materials and products	411,500	34.5	10,988	17.8	12,868	5.4	47,930	14.8	55,869	34.5	15,773	16.5
Iron ore	13,021	47.5	0	n.a.	0	1619.8	0	60.2	453	-1.1	8	9.3
Mineral fuels etc.	266,405	54.0	2,010	92.8	670	78.6	4,343	54.8	39,459	61.6	5,231	25.7
Mineral fuels	265,710	54.4	1,802	91.8	668	79.1	4,104	59.2	39,343	64.0	5,027	35.9
Coal	29,301	97.9	468	41984.8	0	395.7	2,151	78.0	4,180	88.8	1	148.8
LNG	45,163	68.8	292	5.0	0	n.a.	0	n.a.	21,352	59.5	0	n.a.
Petroleum and petroleum products	178,563	46.9	1,021	59.0	653	81.6	1,074	35.4	13,714	65.6	4,937	35.0
Crude oil	154,447	48.3	0	n.a.	0	n.a.	388	239.0	8,084	65.7	0	n.a.
Textiles and textile products	31,755	8.2	532	0.9	2,137	-1.4	24,408	8.5	2,531	17.6	973	3.0
Synthetic fibers and textiles	1,278	15.1	100	19.8	185	4.3	285	16.4	342	15.0	314	12.7
Clothing	24,287	7.5	153	-8.9	1,389	-2.6	20,459	7.8	1,511	18.4	250	-12.5
Base metals and base metal products	41,014	8.4	2,634	5.3	2,799	10.7	9,689	21.4	5,341	-9.3	6,763	11.9
Steel	17,591	26.1	1,016	7.1	865	2.3	5,857	32.6	931	14.3	4,886	13.3
Primary steel products	11,344	37.1	464	23.0	392	-3.5	2,580	66.6	246	13.1	3,731	16.5
Steel products	6,247	10.0	552	-3.4	473	7.6	3,276	14.2	685	14.8	1,155	4.0
Copper	733	-2.7	0	-68.4	1	-53.0	0	-75.8	55	-67.6	28	-70.2
Nickel	1,043	-46.3	2	33.7	131	-20.9	0	-100.0	4	2264.5	6	403.5
Aluminum	8,389	4.9	75	-14.6	53	20.8	823	29.1	441	-2.8	382	50.4
IT products												
Computers and peripherals	20,319	4.5	1,195	-16.0	975	4.4	12,469	10.6	3,761	1.9	2,522	-10.6
Multifunctional digital equipment	1,591	17.3	1	-86.3	1	18.8	953	21.8	599	15.4	38	-21.7
Computers and peripherals	14,074	9.8	903	-11.0	826	9.8	9,112	15.6	2,497	3.8	1,265	-4.5
Parts of computer and peripherals	4,654	-11.6	291	-27.8	148	-18.1	2,405	-7.8	665	-13.2	1,220	-15.9
Office equipment	267	6.7	10	196.6	2	-3.8	201	7.6	17	21.2	41	-11.9
Telecommunications equipment	10,756	15.0	1,139	8.6	424	4.4	5,169	27.2	1,903	15.1	1,775	-6.3
Semiconductors and electronic components	23,803	-1.4	4,009	-4.2	1,138	19.7	2,500	14.2	4,717	-7.0	12,284	-1.8
Electron tubes and semiconductors	3,150	13.3	347	24.1	147	55.2	789	19.4	1,235	5.7	659	11.5
Integrated circuits	20,653	-3.3	3,661	-6.2	990	15.8	1,711	12.0	3,482	-10.8	11,626	-2.5
Other electric and electronic components	17,686	7.0	1,446	-22.8	847	-1.2	8,478	13.8	3,644	12.2	3,105	2.4
Flat-panel displays	4,582	7.5	284	-51.9	58	-5.0	2,082	26.1	1,070	12.0	1,079	3.2
Video equipment	5,752	10.1	120	3.7	125	8.4	4,055	12.5	975	20.5	427	-17.9
Digital cameras	1,638	2.2	49	-24.1	61	12.6	853	-4.5	586	16.8	63	0.0
Reception apparatus for television	1,150	26.3	14	-6.9	4	-6.8	776	37.8	165	25.9	187	-4.1
Audio equipment	432	-35.1	5	-12.4	4	-7.3	339	-32.3	72	-45.9	11	-49.4
Portable audio players	323	-39.3	4	-4.3	3	6.9	266	-39.6	41	-41.8	7	-41.6
Measuring and testing equipment	8,833	-3.6	3,271	-12.3	2,026	-2.3	1,506	7.1	859	4.1	731	19.9
Machines and apparatus for the manufacture of semiconductor devices	2,498	-14.4	1,267	-36.0	845	29.1	83	61.9	132	17.1	244	30.1
IT parts	46,777	0.7	6,099	-9.9	2,211	7.5	13,438	9.4	9,072	-0.7	16,727	-2.0
Finished IT products	43,571	5.7	6,363	-16.2	4,176	5.9	21,362	15.9	7,008	9.2	4,413	-3.5
Total IT equipment	90,348	3.1	12,462	-13.2	6,386	6.4	34,800	13.3	16,080	3.4	21,140	-2.3

(Notes and Source) Same as Table 10.

Table 12 Japan's outward/inward foreign direct investment by country and region (net flows; balance-of-payments basis)

(Unit: US$ million, %)

Outward FDI	2006	2007	2008	Share	Growth rate
Asia	17,167	19,388	23,348	17.8	20.4
China	6,169	6,218	6,496	5.0	4.5
Hong Kong	1,509	1,131	1,301	1.0	15.0
Taiwan	491	1,373	1,082	0.8	-21.2
South Korea	1,517	1,302	2,369	1.8	82.0
ASEAN10	6,923	7,790	6,309	4.8	-19.0
Thailand	1,984	2,608	2,016	1.5	-22.7
Indonesia	744	1,030	731	0.6	-29.0
Malaysia	2,941	325	591	0.5	81.8
Philippines	369	1,045	705	0.5	-32.5
Singapore	375	2,233	1,089	0.8	-51.2
Vietnam	467	475	1,098	0.8	131.0
India	512	1,506	5,551	4.2	268.6
Oceania	723	4,204	6,060	4.6	44.2
Australia	466	4,140	5,232	4.0	26.4
New Zealand	125	-22	635	0.5	n.a.
Guam	98	41	5	0.0	-87.7
Marshall Islands	20	19	72	0.1	287.5
North America	10,188	17,385	46,046	35.2	164.9
US	9,297	15,672	44,674	34.2	185.1
Canada	892	1,713	1,372	1.0	-19.9
Central and South America	2,547	9,482	29,623	22.6	212.4
Mexico	-2,603	501	315	0.2	-37.1
Brazil	1,423	1,244	5,371	4.1	331.7
Cayman Islands (GB)	2,814	5,838	22,550	17.2	286.3
Panama	558	791	807	0.6	2.0
Bermuda (GB)	-305	-428	185	0.1	n.a.
British Virgin Islands	255	1,120	138	0.1	-87.7
Peru	64	50	32	0.0	-36.5
Argentina	11	82	101	0.1	23.9
Western Europe	18,029	20,456	22,418	17.1	9.6
EU	17,925	19,934	22,939	17.5	15.1
Germany	1,128	880	3,905	3.0	343.9
UK	7,271	3,026	6,744	5.2	122.8
France	842	479	1,703	1.3	255.2
Netherlands	8,497	12,440	6,514	5.0	-47.6
Italy	51	45	177	0.1	291.7
Belgium	133	796	2,196	1.7	175.9
Luxemburg	-478	2,291	527	0.4	-77.0
Sweden	416	254	570	0.4	124.4
Spain	136	10	210	0.2	1920.0
Denmark	6	-2	23	0.0	n.a.
Ireland	-229	-600	-158	n.a.	n.a.
Austria	41	3	27	0.0	793.8
Cyprus	-11	16	12	0.0	-25.4
Malta	-1	-2	-	n.a.	n.a.
Switzerland	183	61	165	0.1	169.7
Norway	17	-91	37	0.0	n.a.
Turkey	7	-26	25	0.0	n.a.
Eastern Europe, Russia, etc	367	509	650	0.5	27.6
Russia	160	99	306	0.2	208.1
Poland	234	206	53	0.0	-74.3
Hungary	-102	27	106	0.1	289.1
Czech Republic	-18	87	98	0.1	13.0
Middle East	242	958	1,138	0.9	18.8
Saudi Arabia	254	746	892	0.7	19.6
United Arab Emirates	-56	60	194	0.1	225.6
Egypt	21	55	63	0.0	13.5
Africa	899	1,101	1,518	1.2	37.8
South Africa	466	82	648	0.5	690.5
Liberia	-99	-70	-4	n.a.	n.a.
Mauritius	533	1,026	772	0.6	-24.8
World	50,165	73,483	130,801	100.0	78.0

Inward FDI	2006	2007	2008	Share	Growth rate
Asia	-852	1,605	3,381	13.8	110.7
China	12	15	37	0.2	155.4
Hong Kong	-2,136	47	257	1.0	445.9
Taiwan	110	36	66	0.3	80.9
South Korea	108	221	279	1.1	26.5
ASEAN10	1,063	1,283	2,740	11.2	113.6
Thailand	1	1	6	0.0	894.9
Indonesia	3	2	0	0.0	-69.1
Malaysia	1	-1	13	0.1	n.a.
Philippines	-1	1	3	0.0	297.3
Singapore	1,062	1,282	2,716	11.1	111.9
India	-1	3	1	0.0	-74.6
Oceania	36	215	258	1.1	20.2
Australia	35	207	53	0.2	-74.4
New Zealand	0	7	204	0.8	2685.6
North America	-2,666	12,709	12,005	48.9	-5.5
US	105	13,270	11,792	48.0	-11.1
Canada	-2,771	-561	213	0.9	n.a.
Central and South America	566	2,831	4,020	16.4	42.0
Mexico	0	-	-	n.a.	n.a.
Brazil	-	-	-	n.a.	n.a.
Cayman Islands (GB)	-82	1,480	3,592	14.6	142.7
Panama	9	3	7	0.0	130.6
Bermuda (GB)	428	309	189	0.8	-39.0
British Virgin Islands	181	883	137	0.6	-84.5
Western Europe	-3,938	4,785	4,861	19.8	1.6
EU	-4,274	642	2,943	12.0	358.4
Germany	-542	-813	1,185	4.8	n.a.
UK	1,807	540	-1,289	n.a.	n.a.
France	274	504	177	0.7	-64.8
Netherlands	-7,583	-390	2,692	11.0	n.a.
Italy	48	62	33	0.1	-46.5
Belgium	884	148	-2,040	n.a.	n.a.
Luxemburg	-12	484	477	1.9	-1.5
Sweden	669	368	92	0.4	-75.0
Spain	40	-44	66	0.3	n.a.
Ireland	128	-211	1,524	6.2	n.a.
Austria	40	-8	42	0.2	n.a.
Switzerland	317	1,162	1,873	7.6	61.2
Eastern Europe, Russia, etc	-4	1	5	0.0	562.2
Russia	-	-	1	0.0	n.a.
Middle East	-1	3	-2	n.a.	n.a.
Saudi Arabia	-	1	-	n.a.	n.a.
United Arab Emirates	0	-	0	n.a.	n.a.
Israel	-1	4	0	0.0	-97.6
Africa	63	33	21	0.1	-36.6
South Africa	-	0	-	n.a.	n.a.
Mauritius	63	32	-	n.a.	n.a.
World	-6,789	22,181	24,550	100.0	10.7

(Notes) (1) Figures released in yen were converted to the US dollar at the average quarterly Bank of Japan interbank rate.

(2) Negative figures indicate withdrawal.

(3) "0"indicates an amount of less than one million US dollars; "-" indicates no investment recorded during the corresponding period.

(4) Growth rates are yoy.

(5) EU includes the 25 member states in 2006, and the 27 states, with Bulgaria and Romania added, in and after 2007.

(6) "World" includes countries that are not classified into individual regions. Therefore, "World" figures are not necessarily equal to the sums of regional components.

(Sources) Ministry of Finance Balance of Payments Statistics and Bank of Japan foreign exchange rates.

Table 13 Japan's outward/inward foreign direct investment by industry (net flows; balance-of-payments basis)

(Unit: US$ million, %)

	Outward FDI					Inward FDI				
	2006	2007	2008	Share	Growth rate	2006	2007	2008	Share	Growth rate
Manufacturing (total)	34,513	39,515	45,268	34.6	14.6	254	1,381	2,261	9.2	63.8
Food	1,025	12,776	3,601	2.8	-71.8	-717	365	-86	n.a.	n.a.
Textile	180	371	716	0.5	92.7	58	109	-3	n.a.	n.a.
Wood and pulp	420	745	734	0.6	-1.4	-23	3	-5	n.a.	n.a.
Chemicals and pharmaceuticals	4,413	3,744	11,647	8.9	211.0	1,538	-1,010	245	1.0	n.a.
Petroleum	2,921	-280	652	0.5	n.a.	37	935	300	1.2	-67.9
Rubber and leather	1,107	835	771	0.6	-7.6	35	35	4	0.0	-89.6
Glass and ceramics	2,759	837	1,417	1.1	69.3	193	663	212	0.9	-68.0
Iron, non-ferrous and metals	1,795	2,202	3,152	2.4	43.1	60	230	124	0.5	-46.1
General machinery	1,663	2,642	3,726	2.8	41.0	-24	-22	721	2.9	n.a.
Electrical equipment	7,041	4,691	5,675	4.3	21.0	32	-391	642	2.6	n.a.
Transport equipment	8,597	8,671	10,924	8.4	26.0	-1,408	331	-55	n.a.	n.a.
Precision instruments	1,420	1,293	953	0.7	-26.3	598	20	113	0.5	454.4
Non-manufacturing (total)	15,652	33,968	85,533	65.4	151.8	-7,043	20,800	22,289	90.8	7.2
Agriculture and forestry	42	93	59	0.0	-36.8	11	41	1	0.0	-96.4
Fishery and marine products	28	64	119	0.1	86.3	-39	-33	-2	n.a.	n.a.
Mining	1,577	4,053	10,518	8.0	159.5	1	-	-	n.a.	n.a.
Construction	-64	490	389	0.3	-20.5	37	19	-60	n.a.	n.a.
Transportation	1,507	2,133	2,283	1.7	7.1	28	-288	43	0.2	n.a.
Communications	-3,368	-331	1,675	1.3	n.a.	-9,715	-633	-1,028	n.a.	n.a.
Wholesale and retail	5,483	4,792	13,319	10.2	178.0	-387	1,660	1,160	4.7	-30.1
Finance and insurance	5,562	19,458	52,243	39.9	168.5	2,265	17,661	19,823	80.7	12.2
Real estate	-811	162	162	0.1	-0.3	72	1,413	581	2.4	-58.9
Services	188	1,406	2,721	2.1	93.5	122	295	473	1.9	60.2
Total	50,165	73,483	130,801	100.0	78.0	-6,789	22,181	24,550	100.0	10.7

(Notes) (1) Figures released in yen were converted to the US dollar at the average quarterly Bank of Japan interbank rate.

(2) Negative figures indicate withdrawal.

(3) "0"indicates an amount of less than one million US dollars; "-" indicates no investment recorded during the corresponding period.

(4) Growth rates are yoy.

(Sources) Same as Table 12.

Table 14 Japan's outward/inward foreign direct investment balance by country and region

(Unit: US$ million, %)

	Outward FDI balance (assets)				Inward FDI balance (liabilities)			
	2006-end	2007-end	2008-end	Share	2006-end	2007-end	2008-end	Share
Asia	107,653	132,986	159,570	23.3	8,247	9,390	16,769	8.2
China	30,316	37,797	49,002	7.2	100	125	225	0.1
Hong Kong	7,776	9,129	11,716	1.7	1,928	2,301	3,203	1.6
Taiwan	6,328	7,742	8,830	1.3	1,475	1,534	1,892	0.9
South Korea	10,669	12,103	12,180	1.8	423	694	1,235	0.6
ASEAN10	49,837	61,435	67,654	9.9	4,310	4,721	10,193	5.0
Thailand	14,839	19,776	20,529	3.0	42	44	61	0.0
Indonesia	7,457	8,315	8,528	1.2	8	9	12	0.0
Malaysia	7,763	8,184	7,743	1.1	13	1	7	0.0
Philippines	4,253	5,780	7,800	1.1	43	46	61	0.0
Singapore	14,270	17,586	19,511	2.9	4,205	4,620	10,047	4.9
Vietnam	n.a.	1,711	3,307	0.5	n.a.	0	0	0.0
India	2,315	4,218	9,440	1.4	9	13	18	0.0
Oceania	13,794	19,617	21,624	3.2	492	779	1,075	0.5
Australia	12,181	17,940	19,107	2.8	485	764	838	0.4
New Zealand	994	951	1,440	0.2	3	11	231	0.1
North America	163,230	183,776	234,957	34.4	44,273	45,947	75,680	37.0
US	156,411	174,199	226,611	33.1	41,989	44,795	74,344	36.4
Canada	6,818	9,577	8,346	1.2	2,284	1,152	1,336	0.7
Central and South America	39,291	54,749	90,794	13.3	12,123	15,227	23,576	11.5
Mexico	1,773	1,469	2,097	0.3	4	5	6	0.0
Brazil	7,829	11,028	16,492	2.4	30	32	40	0.0
Cayman Islands (GB)	21,440	32,038	61,531	9.0	8,400	10,469	17,363	8.5
Western Europe	118,657	145,884	161,649	23.6	42,367	62,341	86,915	42.5
EU	118,852	145,280	161,783	23.7	39,625	55,117	75,600	37.0
Germany	7,415	9,524	11,992	1.8	4,582	3,811	6,592	3.2
UK	31,613	32,021	32,576	4.8	4,983	5,962	6,750	3.3
France	13,064	12,415	14,920	2.2	11,549	12,776	16,233	7.9
Netherlands	45,419	63,941	72,172	10.6	12,175	26,025	36,510	17.9
Italy	807	837	882	0.1	495	509	719	0.4
Belgium	9,630	12,071	14,009	2.0	1,901	1,947	1,362	0.7
Luxemburg	1,128	3,537	4,332	0.6	1,635	2,267	4,000	2.0
Sweden	2,199	2,956	3,054	0.4	742	709	901	0.4
Spain	1,348	1,736	1,276	0.2	195	102	175	0.1
Switzerland	985	1,118	1,332	0.2	2,640	3,942	7,150	3.5
Eastern Europe, Russia, etc.	2,315	2,864	3,786	0.6	47	46	63	0.0
Russia	258	373	668	0.1	46	48	61	0.0
Middle East	2,038	3,066	4,164	0.6	14	20	29	0.0
Saudi Arabia	1,753	2,585	3,481	0.5	2	3	4	0.0
United Arab Emirates	183	254	303	0.0	1	1	1	0.0
Iran	4	5	6	0.0	-	0	-2	n.a.
Africa	2,701	3,895	7,325	1.1	63	99	275	0.1
South Africa	1,125	852	1,673	0.2	-	0	0	0.0
OECD nations	309,275	363,214	433,482	63.4	87,463	106,484	160,743	78.6
Total	449,680	546,839	683,872	100.0	107,663	133,888	204,433	100.0

(Notes) (1) Figures first released in Japanese yen were converted to US dollars using Bank of Japan year-end interbank rates.

(2) For inward FDI, negative figures indicate net outflow.

(3) "0"indicates an amount of less than one million US dollars; "-" indicates no investment recorded during the corresponding period.

(4) OECD member countries include the EU15, Australia, Canada, Iceland, New Zealand, Norway, Switzerland, Turkey, US, Mexico, Czech Republic, Hungary, South Korea, Poland, and Slovakia (29 countries in total). However, Slovakia was added from the end of 2007.

(5) EU figures are based on the EU25 nations for the end of 2006 and on the EU27 nations for the end of 2007 and 2008.

(Sources) Based on Japan's Balance of External Assets & Liabilities statistics by Ministry of Finance and Bank of Japan, and Bank of Japan foreign exchange rates.

Table 15 Worldwide FTA list

Area	Name	Effective date	Area	Name	Effective date
Europe, Russia and the CIS, Middle East, Africa	European Union (EU; formerly European Community [EC] under Treaties of Rome)	1958/1/1		Turkey - Georgia	2008/11/1
	European Free Trade Association (EFTA)	1960/5/3		EU - Cote d'Ivoire	2009/1/1
	EU - Switzerland	1973/1/1	Americas	Central American Common Market (CACM)	1961/10/12
	EU - Syria	1977/7/1		Caribbean Community (CARICOM)	1973/8/1
	EU - Andorra	1991/7/1		Latin American Integration Association (ALADI)	1981/3/18
	Economic Cooperation Organization (ECO)	1992/2/17		Andean Community (CAN)	1988/5/25
	EFTA - Turkey	1992/4/2		Common Market of the South (Mercosur)	1991/11/29
	EFTA - Israel	1993/1/1		North American Free Trade Agreement (NAFTA)	1994/1/1
	Armenia - Russia	1993/3/25		Costa Rica - Mexico	1995/1/1
	Kyrgyzstan - Russia	1993/4/24		Canada - Chile	1997/7/5
	Faroe Islands - Norway	1993/7/1		Mexico - Nicaragua	1998/7/1
	Economic Community of West African States (ECOWAS)	1993/7/24		Chile - Mexico	1999/8/1
	European Economic Area (EEA)	1994/1/1		Mexico - El Salvador	2001/3/15
	Ukraine - Russia	1994/2/21		Guatemala - Mexico	2001/3/15
	Georgia - Russia	1994/5/10		Honduras - Mexico	2001/6/1
	Common Market for Eastern and Southern Africa (COMESA)	1994/12/8		Chile - Costa Rica	2002/2/15
	Commonwealth of Independent States (CIS) economic union	1994/12/30		Chile - El Salvador	2002/6/1
	Faroe Islands - Switzerland	1995/3/1		Canada - Costa Rica	2002/11/1
	Kyrgyzstan - Armenia	1995/10/27		Panama - El Salvador	2003/4/11
	Ukraine - Turkmenistan	1995/11/4		US - Chile	2004/1/1
	Kyrgyzstan - Kazakhstan	1995/11/11		CAFTA-DR	2006/3/1
	Armenia - Republic of Moldova	1995/12/21		Chile - Panama	2008/3/7
	EU - Turkey	1996/1/1		Panama - Costa Rica	2008/3/7
	Ukraine - Uzbekistan	1996/1/1		US - Peru	2009/2/1
	Georgia - Ukraine	1996/6/4	Asia-Pacific	Asia-Pacific Trade Agreement (APTA)	1976/6/17
	Armenia - Turkmenistan	1996/7/7		Papua New Guinea-Australia Trade and Commercial Relations Agreement (PATCRA)	1977/2/1
	Georgia - Azerbaijan	1996/7/10		South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA)	1981/1/1
	Ukraine - Azerbaijan	1996/9/2		Australia/New Zealand Closer Economic Relations Trade Agreement (ANZCERTA)	1983/1/1
	Kyrgyzstan - Republic of Moldova	1996/11/21		Laos - Thailand	1991/6/20
	Armenia - Ukraine	1996/12/18		ASEAN Free Trade Area (AFTA)	1992/1/28
	EU - Faroe Islands	1997/1/1		Melanesian Spearhead Group (MSG)	1994/1/1
	Turkey - Israel	1997/5/1		New Zealand - Singapore	2001/1/1
	EU - Palestinian Territories	1997/7/1		India - Sri Lanka	2001/12/15
	Eurasian Economic Community (EAEC)	1997/10/8		Japan - Singapore	2002/11/30
	Pan-Arab Free Trade Area	1998/1/1		Pacific Island Countries Trade Agreement (PICTA)	2003/11/30
	Kyrgyzstan - Ukraine	1998/1/19		ASEAN - China (Framework Agreement)	2003/7/1
	EU - Tunisia	1998/3/1		Singapore - Australia	2003/7/28
	Kyrgyzstan - Uzbekistan	1998/3/20		China - Macao	2004/1/1
	Ukraine - Kazakhstan	1998/10/19		China - Hong Kong	2004/1/1
	Georgia - Armenia	1998/11/11		Thailand - India	2004/9/1
	Economic and Monetary Community of Central Africa (CEMAC)	1999/6/24		Thailand - Australia	2005/1/1
	EFTA - Palestinian Territories	1999/7/1		Pakistan - Sri Lanka	2005/6/12
	Georgia - Kazakhstan	1999/7/16		Thailand - New Zealand	2005/7/1
	EFTA - Morocco	1999/12/1		India - Singapore	2005/8/1
	EU - South Africa	2000/1/1		South Asian Free Trade Area (SAFTA)	2006/1/1
	Georgia - Turkmenistan	2000/1/1		South Korea - Singapore	2006/3/2
	Western African Economic and Monetary Union (WAEMU/UEMOA)	2000/1/1		Japan - Malaysia	2006/7/13
	EU - Morocco	2000/3/1		India - Bhutan	2006/7/29
	EU - Israel	2000/6/1		South Korea - ASEAN	2007/6/1
	East African Community (EAC)	2000/7/7		China - Pakistan	2007/7/1
	Turkey - Macedonia	2000/9/1		Japan - Thailand	2007/11/1
	Southern African Development Community (SADC)	2000/9/1		Pakistan - Malaysia	2008/1/1
	EFTA - Macedonia	2001/1/1		Japan - Indonesia	2008/7/1
	EU - Macedonia	2001/6/1		Japan - Brunei	2008/7/31
	Ukraine - Macedonia	2001/7/5		China - New Zealand	2008/10/1
	Armenia - Kazakhstan	2001/12/25		Japan - Philippines	2008/12/11
	EFTA - Jordan	2002/1/1		China - Singapore	2009/1/1
	EFTA - Croatia	2002/1/1	Cross-Regional	EU - Overseas Countries and Territories (OCTs)	1997/1/1
	EU - Croatia	2002/3/1		Protocol Relating to Trade Negotiations Among Developing Countries (PTN)	1973/2/11
	EU - Jordan	2002/5/1		US - Israel	1985/8/19
	Ukraine - Tajikistan	2002/7/11		Global System of Trade Preferences Among Developing Countries (GSTP)	1989/4/19
	Gulf Cooperation Council (GCC)	2003/1/1		Canada - Israel	1997/1/1
	EU - Lebanon	2003/3/1		Israel - Mexico	2000/7/1
	Turkey - Bosnia And Herzegovina	2003/7/1		EU - Mexico	2000/7/1
	Turkey - Croatia	2003/7/1		EFTA - Mexico	2001/7/1
	Single Economic Space	2004/5/20		US - Jordan	2001/12/17
	EU - Egypt	2004/6/1		EFTA - Singapore	2003/1/1
	Southern African Customs Union (SACU)	2004/7/15		EU - Chile	2003/2/1
	Ukraine - Moldova	2005/5/19		US - Singapore	2004/1/1
	EFTA - Tunisia	2005/6/1		South Korea - Chile	2004/4/1
	Turkey - Palestinian Territories	2005/6/1		EFTA - Chile	2004/12/1
	Turkey - Tunisia	2005/7/1		US - Australia	2005/1/1
	EU-Algeria	2005/9/1		Japan - Mexico	2005/4/1
	Turkey - Morocco	2006/1/1		Jordan - Singapore	2005/8/22
	Faroe Islands - Iceland	2006/11/1		US - Morocco	2006/1/1
	Ukraine - Belarus	2006/11/1		Trans-Pacific Strategic Economic Partnership Agreement (P4)	2006/5/28
	EU - Albania	2006/12/1		Panama - Singapore	2006/7/24
	Turkey - Syria	2007/1/1		US - Bahrain	2006/8/1
	EFTA - Lebanon	2007/1/1		EFTA - South Korea	2006/9/1
	Turkey - Egypt	2007/3/1		China - Chile	2006/10/1
	Central European Free Trade Agreement (CEFTA)	2007/5/1		India - Chile	2007/8/17
	EFTA - Egypt	2007/8/1		Japan - Chile	2007/9/3
	EU - Montenegro	2008/1/1		EU - CARIFORUM	2008/11/1
	Turkey - Albania	2008/5/1		US - Oman	2009/1/1
	EFTA - SACU	2008/5/1		Australia - Chile	2009/3/7
	EU - Bosnia and Herzegovina	2008/7/1			

(Notes) Although the EEA has been reported to the WTO only under Article 5 (Services) of the GATS Agreement, the agreement contains elements of liberalization of trade in goods.
With the exceptions of South Korea - ASEAN and Thailand - India FTA, all of the above information is based on WTO reports.
(Sources) Based on list on WTO website (http://rtais.wto.org/UI/PublicAllRTAList.aspx) as of June 1, 2009.